



OPDL Physical Development Guide

Ontario Player Development League (OPDL)

Sport Science

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1. INTRODUCTION

Welcome to the OPDL club physical development guidelines. Here you will find guidance for building an effective soccer-specific athletic development program for your club.

This document is intended to guide club technical directors, OPDL head coaches and physical preparation coaches (also known as fitness coaches or strength and conditioning coaches), and assist in implementing an effective, comprehensive physical program for their athletes.

Physical training serves two main purposes in sport – injury prevention and performance enhancement. When used correctly, physical training can decrease the risk of injuries that many athletes inherit and increase athletic performance, allowing them to compete at their best.

The following information was developed by Matt Daher – sport science high performance consultant to Ontario Soccer and the OPDL. He is an expert in exercise science and has extensive experience training and testing soccer players at the highest level.

2. ABOUT THE AUTHOR



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3. THE ROLE OF THE PHYSICAL COACH

The physical coach – also referred to as physical preparation coach, strength and conditioning coach, and fitness coach – has the responsibility to assist the technical director and head coach in decision making when it comes to the physical development of their athletes.

Periodizing the yearly plan (macrocycle, mesocycles, and microcycles), conducting fitness testing, and training the teams are the main duties of the physical coach. He or she also has the responsibility of being a teacher to the coach and the athletes alike and being a consultant to the head coach, where they will be required to be in contact on a regular basis, planning the weeks ahead.

Communicating with the head coach before the beginning of pre-season and throughout the entire season is important in order to program appropriately. This includes setting dates for fitness testing, determining an optimal weekly training schedule, and advising on training logistics and parameters.

4. THE ROLE OF THE HEAD COACH

Just as the physical coach must regularly communicate with the head coach, the reverse is essential to have a good working relationship. It is imperative that the physical and technical coaches work together in order for the athletes to train in an optimal environment for development.

The head coach must get involved and remain involved in the fitness testing and training sessions throughout the season. When the physical coach is conducting a fitness training session, the head coach must be present and actively engaged in the work being done by the team. The head coach shall assist the physical coach in monitoring and motivating the athletes to ensure the technical work is being done correctly and that the intensity is at the desired level.



If the physical coach is not present, technical staff should have the capacity to conduct warm-ups and cool-downs, and have the knowledge to train athletes at appropriate intensities and work-to-rest ratios. When in doubt, the head coach or other technical staff should contact the physical coach in order to ensure the type of work and the loading is correct.

5. FITNESS TESTING

Fitness testing plays an important role and provides technical staff with valuable performance information on their athletes. The testing results will identify strengths and weaknesses of teams and individuals that can help with decision-making during session planning and roster selection. It will provide information on the athlete's stature, strength, power, speed, ability to repeat high intensity running bouts and recovery.

The fitness testing scores will provide insight into an athlete's physical capabilities at any given time. The scores of multiple testing dates will provide information on an athlete's physical development over a specific time period and can provide information on the effectiveness of training programs. The ultimate goal is an improvement in testing scores and an increase in performance over time.

For more information on how to conduct fitness testing with your athletes, refer to the "OPDL Physical Testing Protocol" document.

6. PERIODIZATION

It is the physical coach's responsibility to advise technical staff on the macrocycle. This will be the team's yearly plan and includes distinct training phases throughout the year. The task is to construct a plan based on training targets for these individual mesocycle phases (preparation, competition, and transition) and properly transitioning from one phase to the next.

Although variations exist, the soccer mesocycles should look something like the following:

- The early preparatory phase consists mainly of strength training and higher volume, lower intensity aerobic development. This will give the athletes a proper foundation of strength, which will help protect them from injury, and establish a strong aerobic base to build upon.
- The later part of the preparatory phase should transition from strength training to explosive power development and from higher volume, low intensity aerobic activity to lower volume, higher intensity anaerobic activity.
- During the competitive phase, the physical training should consist of soccer specific high intensity anaerobic work to mimic the nature of the sport.
- The transition phase, also known as the post- or off-season, should consist of 3-5 weeks of non-soccer activities with reduced loading.

The microcycles are where most of the variety in training programs will exist. These week-long phases should be customized and are dependent on the team's weekly schedule. The physical coach should act as the consultant to the head coach in order to determine the loading of the individual training sessions. During the competitive phase, the focus of the individual microcycle is



performance enhancement and proper recovery with the main objective of having the athletes peaking for competition on game day.

When planning the weekly microcycle, the physical coach must not only work with the head coach, but must also be attentive to the athletes in order to tailor the training sessions. This is important to reduce the risk of over-training and fatigue, and to optimally peak the athletes.

7. WARM-UP AND COOL-DOWN

There is an abundance of information that can be found regarding warm-up and cool-down, yet many remain misinformed as to what should be done with athletes prior to and after training and games. With warming up and cooling down being integral components of athletic development, it is important to understand what type of activities are ideal for each respective component.

The warm-up prepares athlete's body for the work that they are about to take part in, as it helps decrease the risk of injury and increase performance. More specifically, warm-up helps increase the heart rate, and therefore blood flow and nutrients to the muscle tissue, increase body temperature, and lubricate the joints. Prior to activity, dynamic stretches, which bring the joints through their range while in motion, are the most appropriate. These dynamic stretches should focus on joints and movements that are used in soccer.

The FIFA 11+, developed by the FIFA Medical Assessment and Research Centre, is a complete warm-up that can provide technical staff with guidance to implement an effective injury prevention program for their athletes. A full warm-up should be a minimum of 10 minutes to properly prepare the body for training. The FIFA 11+ warmup takes approximately 20 minutes to complete. On game day, in addition to dynamic stretches, the players should take part in plyometric, change of direction, and reaction time activities to further prepare them for competition. A pre-game warm-up should be greater in length compared to the training warm-up due to the additional preparation required and subsequent high-intensity activity the athletes will be taking part in during competition.

By contrast, during the cool-down, light jogging activities along with static stretches are appropriate. The aim of the cool-down is to facilitate a return to a state of rest for the body. Athletes should allocate approximately 10 minutes to the cool-down.

8. LOADING

It is recommended that the physical coach be present on a regular basis with a minimum of one fitness session each week throughout the year. At certain times, for example leading up to the start of the season, this frequency may be increased to establish proper preparation for the competition phase. Working with the team on a weekly basis will ensure proper development and recovery, and monitoring of the team's progress throughout the microcycles.

The amount of time dedicated to each fitness training session may vary, although the session should allow enough time to train various components of physical fitness appropriate to the training phase, especially if warm-up is included.



The parameter that may vary the most week-to-week is the loading. As previously discussed, it is important to tailor the loading of individual training sessions based on the previous and the upcoming weeks' training and competition. A session's loading may be low, for example due to its proximity to competition, or it may be high to ensure proper development or maintenance of athletic performance. The loading must be monitored on an on-going basis and modified when necessary, sometimes at the time of a training session, in order to have effective microcycles. This is where the importance of communication and collaboration between the physical and technical staff comes into play.

9. SOCCER-SPECIFIC TRAINING

It is imperative, particularly during the competition phase, that the type of training being conducted is specific to soccer. This means that the muscle groups being targeted, the energy systems being trained, and the work-to-rest ratios are all specific to soccer.

Strength, power, coordination, agility, flexibility and aerobic capacity are all important components of physical development for the soccer player. These should all be worked on, at times individually, and maintained throughout the season. However, isolation training is not sufficient for the soccer player.

In order to train specific to soccer, the physical coach must think about the demands of the sport. The fitness training should include repeated sprinting, have an emphasis on the anaerobic energy systems, and have work-to-rest ratios which may vary from 1:1 to 1:6. Other important items to remember include doing work that involves ball work, proper communication, awareness of surroundings, and quality of technical skills, all while maintaining the desired training intensity.

10. AGE- AND GENDER-SPECIFIC TRAINING

There is variance to note when dealing with young athletes based on their ages and genders due to different rates in development and maturation. Generally, females reach peak height velocity (PHV), which is defined as the maximum rate of growth in stature during the growth spurt, at an earlier age and therefore require training that reflects this difference. Different approaches should be used when setting parameters for physical training as this is important to note for their long term athlete development.

For females, the optimal window for the development of speed is generally at or below the U14 level. For their male counterparts, the window for speed and power development is generally longer and extended up to the U16 level. The difference in the average ages of PHV for the respective genders is reflected in those parameters. This is important to note because speed, and the ability to maintain speed over time, plays a crucial role in soccer.

Optimal aerobic trainability begins with the onset of PHV. Aerobic training could then be further developed after the onset of PHV, at which time speed and strength should be maintained or developed further.



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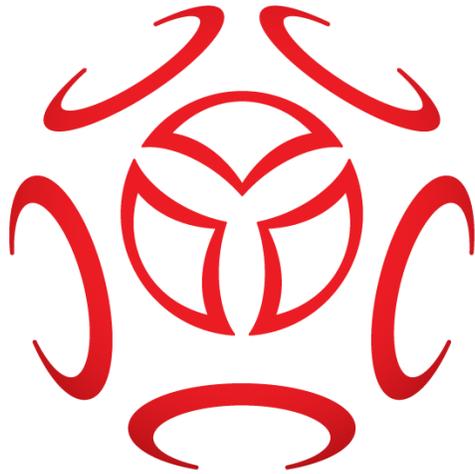
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