FOOTBALL TRAINING AND PRACTICES

1. Periodization in Elite Football

2. The Difference Between 1 or 2 Games per Week

3. Fitness Training in Modern Football
   - Pre-Season
   - In-Season
   - Mid-Season
   - Off-Season

4. Specific Training in Elite Modern Football
   - Intermittent Exercise
   - Speed, Repeated Sprint Ability (RSA) and Agility
   - Small Sided Games

Throughout recent years the interest and application of more specific training methods attempting to reproduce the technical and physical demands of competitive match play has become more evident (Owen et al., 2011; Owen et al., 2012; Dellal et al., 2010; Koklu et al., 2012). One such method gaining popularity is the use of various sided training games with the aim of applying specific overloads to induce specific outcomes.

Validation for small sided games comes from their ability to develop the technical, tactical and physical abilities of a player at the same time, which in turn helps to enhance training efficiency (Dellal et al., 2012). Many recent studies have shown that by manipulating variables such as technical and tactical constraints (Abrantes et al., 2012), pitch sizes (Casamichana and Castellano, 2010; Kelly and Drust, 2009), player numbers (Hill-Haas et al., 2009) and bout durations (Fanchini et al., 2011), the physiological responses of players can be modified. Favourable physiological responses brought about by this method of training are suggested to fit perfectly within elite level football as a conditioning stimulus capable of improving the Aerobic Endurance Capacity - see key terms page (Jones and Drust, 2007; Owen et al., 2011; Coutts et al., 2009; Rampinini et al., 2007; Mallo et al., 2008).

Setting aside its usefulness for training aerobic fitness and technical/tactical development (Hill-Haas et al., 2011), it seems, when compared to actual match play, small sided games may be unable to simulate repeated high speed and sprint demands (Casamichana et al., 2012; Gabbett and Mulvey, 2008). These findings are reinforced by the reported ‘Ceiling Effect’ associated with a failure to achieve high exercise intensities (Buchheit et al., 2009).
However, this notion has been disputed by a number of authors working at the elite level (Owen et al., 2012; Dellal et al., 2011). As identified within the literature, high-intensity and repeated sprint demands are more commonly associated with match play when introducing larger sided games formats (Hill-Hass et al., 2009). This may be a result of large sided games (LSGs) being played on increased pitch sizes combined with the fact that players in these game formats have less involvement with the ball. This also results in increases of sustained high speed/high intensity runs occurring when working ‘off the ball’ in order to lose opponents or create a scoring opportunity.

In turn, the lack of research examining medium (6 v 6, 7 v 7, 8 v 8) and larger sided (9 v 9, 10 v 10, 11 v 11) games might be because these games are used more for technical and tactical purposes rather than physiological and physical development. However, not accounting for physical and physiological parameters during these medium and larger sided games may mean that we miss important elements of training and the potential benefits their inclusion may have.

**KEY POINT:**
It is the authors belief that almost all the technical/tactical drills have a potential physical training effect. The technical and physical development staff should work together to optimise the fitness development within game related training.

The need to generate more football specific training methods and maximise their involvement within a periodized training structure is of paramount importance within the elite level of the game.

*Figure 1. An Efficiency Model for the Analysis of Football Training* (from Reilly, 2005).
1. PERIODIZATION IN ELITE FOOTBALL
TRIENING CYCLES

**Multi-Year Preparation**

When discussing a periodized structure in sport, it should be highlighted that this theory is generally part of a multi-year preparation where hierarchical levels are set within the system. As shown in Table 1 on the next page the top or global system is known as the multi-year preparation, where the aim of attempting to achieve peak performance over a longer term (2-4 year cycles) is of paramount importance (e.g. the Olympics, European Championships, the World Cup).

**Macro-Cycles**

The next level of the process is known as macro-cycles that are split into months and according to previous research, include preparatory, competition and transition periods (Harre, 1973), generally lasting 1 year, but can be shortened to half a year and even less in some circumstances. There are 3 suggested phases in the macro-cycle:

1) Preparation, 2) Competitive and 3) Transition.

**The Preparation Phase**

The preparation phase should last approximately 2/3 to 3/4 of the macro-cycle that is broken into 2 parts of equal duration:

- **General Preparation**
  The process of developing an aerobic base for football or endurance related sports.

- **Specific Preparation**
  The process of working on sport specific elements in order to increase efficiency of training.

In some leagues, some teams participate within continental competitions. As a result of these increased fixtures, sometimes players are exposed to extremely short off-season periods. Ideally, football players should take around 3 weeks of rest in between seasons. In that case, the ‘preparation phase’ can be quite well structured and start at low intensity to progressively increase the training load. Based on players having a short off-period in between seasons, the preparation (e.g. pre-season) phase should also be significantly shortened. Although there is no science addressing this particular point, the players can resume training after 2 to 3 days of training ‘build-up’ to ensure an increased training load of high intensity training. It is the opinion of the author, that monitoring training load with adequate tools (RPE, Wellness, HR and GPS analysis) may guide the technical and physical coaching staff to adopt the right training load for each individual player.

**The Competitive Phase**

The competitive phase can be several competitions or the start of the competitive season in team sport settings. When certain competitions or fixtures are of a higher priority or greater difficulty, then a tapering off stage may be adopted in order to ensure a better physical condition when compared to other competitions or games in the same phase.

**The Transition Phase**

The last phase is known as the transition phase and is suggested to be important for both physical and psychological reasons. This phase involves a break from training and allows the body and mind to recover fully before the next phase or training cycle.

**Meso-Cycles and Micro-Cycles**

According to Issurin (2010), the next and shortest period for planning training cycles is mostly used for active recovery and rehabilitation in the training programme and are known as meso-cycles (weeks) and micro-cycles (days). A meso-cycle represents a phase of training over a period of between 2 to 6 weeks but this can depend on the sporting discipline. During the preparatory phase, a meso-cycle commonly consists of 4 to 6 micro-cycles, while during
the competitive phase it will usually consist of 2 to 4 micro-cycles depending on the competitive demands. The long term target is to link the meso-cycles into the overall plan’s time line to ensure each meso-cycle ends on one of the phases, as well as ensuring the body peaks for the high priority competitions by improving each cycle along the way.

The smaller meso-cycle and micro-cycle facets are the key foundations of the entire training system. There are few scientific references surrounding the use of periodization in professional football. This may be due to the practical difficulties encountered when trying to implement a long-term periodization strategy within a results based industry. Indeed, the training has to be continuously re-assessed on the fitness evolution of the players, however within professional football the key is to ensure peak performance is maintained throughout the season as one game across the season is no more important than another from a league campaign. A general plan is possible, but precise training load scheduling has practically no sense on a yearly basis as decreases in physical outputs and performance should not be planned for. The key is to maintain and improve performance markers across the season irrespective of the opposition. It can therefore be suggested that the technical, medical and physical development staff may be more concerned with monitoring and following individual and team trends (e.g. match/training physical, technical loads and outputs) on the basis of micro-cycles or maximally, one meso-cycle.

Table 1. Stages of a Periodized Training Structure – Advanced Planning (Adapted from Issurin, 2010).

<table>
<thead>
<tr>
<th>TRAINING STAGE</th>
<th>DURATION</th>
<th>TRAINING CONTENT</th>
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</thead>
<tbody>
<tr>
<td>Multi-Year Preparation</td>
<td>Years</td>
<td>Yearly/multi-year systematic plan developed over 2 or 4 year cycles</td>
</tr>
<tr>
<td>Macro-Cycle</td>
<td>Months</td>
<td>Large training cycle includes preparation, competition and transition periods</td>
</tr>
<tr>
<td>Meso-Cycle</td>
<td>Weeks</td>
<td>Medium size training cycle consisting of a number of micro-cycles</td>
</tr>
<tr>
<td>Micro-Cycle</td>
<td>Days</td>
<td>Small training cycle consisting of a number of days; frequently 1 week</td>
</tr>
<tr>
<td>Training Session</td>
<td>Minutes/Hours</td>
<td>A single training session performed individually or within a group</td>
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3. FITNESS TRAINING IN MODERN FOOTBALL
The evaluation of training programmes in football is vital in order to establish the strengths, weaknesses and subsequent effectiveness of methods used. The pre-season phase of football training gives technical and physical coaches the opportunity to implement a periodized structure with the primary aim of increasing physical, technical and tactical aspects of the players under a controlled process.

From the pre-season phase onwards, the opportunity to continually improve elements of match-play is performed under a slightly less controlled process, due to the continual demands placed upon the coaching staff and players during domestic, European and international fixtures, combined with the additional travelling and logistical issues surrounding these.

Testing players’ key physical variables before the start and towards the end of pre-season is a process which will allow coaches of all interests to expose weaknesses and subsequently attempt to improve them through specific training.

Throughout the pre-season preparation period, the training focus is placed upon ensuring the key sport specific muscle groups and energy systems are being stimulated in order to cause positive adaptations, leading to improvements in aerobic endurance, strength, speed and power (Dellal, 2008). Pre-season itself generally follows a process of developing general fitness, then specific fitness, before moving into the pre-competition preparation phase (Figure 11 below).

**KEY POINT:**
Through pre-season, the training focus is placed upon ensuring the key sport specific muscle groups and energy systems are being stimulated in order to cause positive adaptations, leading to improvements in aerobic endurance, strength, speed and power.

**Figure 11. Development of Training Load (Volume and Intensity) Throughout the Pre-Season Phase**

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
<th>Week 7</th>
<th>Competition</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Fitness</td>
<td>Development of Specific Fitness</td>
<td>Preparation</td>
<td>Volume</td>
<td>Intensity</td>
<td></td>
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<td></td>
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