

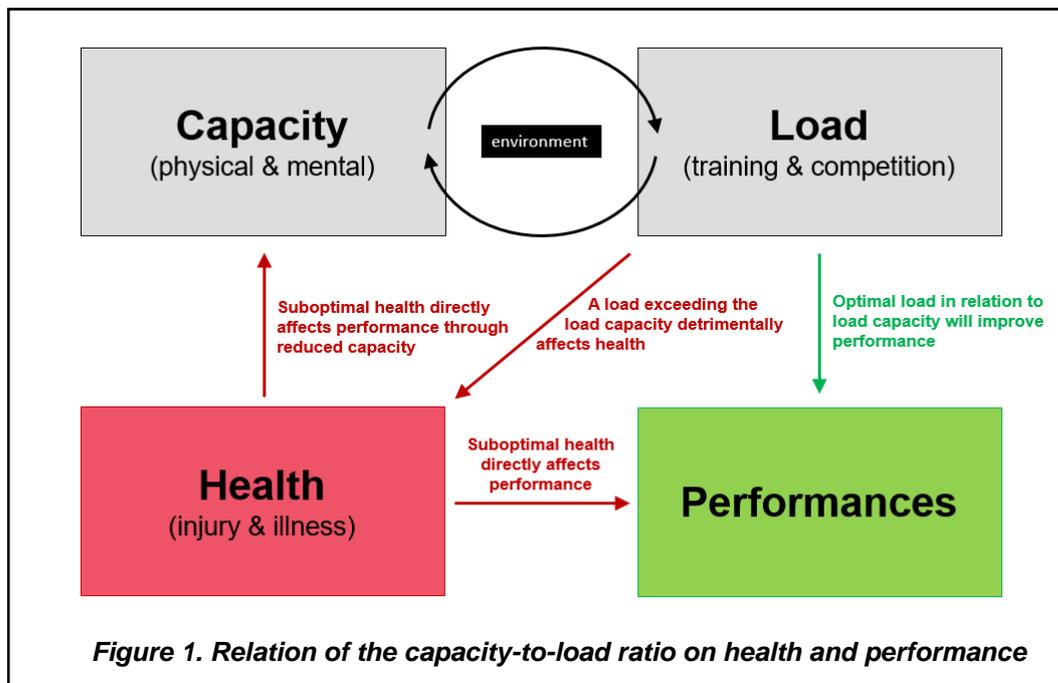
# The International Match Calendar in football

## Report on male players

Dr. Vincent Goutteborge, Mr. Jonas Baer-Hoffmann

### 1 Background

Professional footballers (male and female) can only perform at their full potential when they are in good health, both physically and mentally. The International Match Calendar and its related dimensions can significantly influence the health of (elite) professional footballers and their health. As described in Figure 1, an optimal management between the load induced by training and matches on players and their (physical and mental) capacity generally leads to performance enhancement and does not jeopardize their health. When an imbalance occurs in this load-to-capacity ratio, a player's physical and mental health is affected and his or her performance decreases.



Three dimensions related to the International Match Calendar are particularly likely to affect the load-to-capacity ratio of (elite) professional footballers and thus lead to their suboptimal health and submaximal performances: (i) number of matches versus number of recovery days; (ii) in- and off-season breaks; (iii) travel arrangements. Consequently, the World Players' Union (FIFPro) has critically reviewed and studied the dimensions related to the International Match Calendar (for male and female players) in order to propose advancements that should improve the working conditions of (elite) professional footballers.

The following sections of this report describe subsequently the different activities undertaken by FIFPro and its main findings, while recommendations are ultimately formulated. This report is exclusively directed towards male players.

## **2 FIFPro's activities**

### **2.1 Overview of scientific literature**

A (non-systematic) review of the scientific biomedical literature was conducted from October to December 2017. Therefore, keywords and synonyms were applied in the database Medline (via Pubmed) in order to identify the latest evidence about the potential influence of the International Match Calendar (and its related dimensions) on the health and performances of (elite) professional footballers. Medical and physiological textbooks were also consulted.

### **2.2 Interviews of FIFPro's national members**

In conjunction with the FIFPro Annual General Assembly 2017 (Cairo, Egypt), semi-structured group interviews were conducted across the divisions Africa, Americas, Asia and Europe. During these interviews, three main issues related to the International Match Calendar were discussed, namely (i) recovery days between matches, (ii) in- and off-season breaks, and (iii) travel arrangements. Because of a lack of time, several European members were also reached afterwards by email.

### **2.3 Survey of male (elite) professional footballers**

From February to May 2018, a short survey (electronic and paper) was distributed to male professional footballers. All FIFPro's national members were requested to collaborate, targeting especially the players exposed to many matches, which means those playing in national teams and/or in continental competitions (such as the Champion League). The questions embedded in the survey were directed towards three main issues related to the International Match Calendar, namely (i) number of matches played and related recovery, (ii) in- and off-season breaks, and (iii) travel arrangements.

### **3 Overview of scientific literature**

Football matches involve frequent explosive actions with a high (cumulative) load on muscles, inducing muscle damage and post-match fatigue that can last up to 72 hours. Therefore, a congested period with a high number of matches versus a too few number of recovery days has been shown to be associated with poorer performances and a higher risk for injuries, especially:

- (i) a short period of recovery between matches (3 days or less) is associated with more matches lost;
- (ii) a short period of recovery between matches (4 days or less) is associated with a higher risk of injuries in comparison to a longer period of recovery between matches (6 days or more);
- (iii) playing 2 matches per week with 72-96 hours recovery time in between leads to a higher risk of injury by comparison to playing a single match per week;
- (iv) a period of recovery of 6 days or more between matches does not lead to a higher risk of injuries.

In- and off-season breaks enables players to recover optimally during and after a football season, which is essential before starting a new one. At present time, there are no guidelines available about the optimal duration of in- and off-season breaks. These periods of detraining (partial or complete cessation of football activities) shouldn't be too long in order to avoid a too significant loss of key physiological capacities (e.g. endurance, strength) and shouldn't be too short in order to provide players with sufficient time to recover and regenerate, both physically and mentally.

Elite professional footballers, especially those playing in national teams, are regularly exposed to long-distance flights. These continental and intercontinental flights induce travel fatigue and/or jet-lag. Travel fatigue is a temporary exhaustion associated with any long journey, while jet-lag is a disruption of the body clock and daily rhythm associated with flights across 3 or more time zones. Players can generally recover quickly from travel fatigue but it can accumulate over the course of a football season. Jet-lag can last several days to weeks depending on the number of time-zones crossed, with the rule of thumb of one recovery day for each time-zone crossed. In order to minimise the negative consequences of travel fatigue and/or jet-lag, good travel arrangements should be given to players in order to maintain good health and optimal performance.

### **4 View of FIFPro's members**

The International Match Calendar (and related dimensions) is a significant problem for FIFPro's divisions, especially in Africa, Americas and Asia: there is no proper coordination between national, continental and international competitions. Defined by FIFA, the International Match Calendar for international competitions is aligned with most of the

European national competitions, with a typical football season from August to May. This typical football season does not always apply in countries from other continents such as Australia, Colombia and USA. This exposes especially elite professional footballers playing in national teams to be in conflict with their clubs and to a suboptimal number of recovery days between matches.

In many countries across all FIFPro's divisions, the number of matches played is too high. A particular problem for elite professional footballers is that tournaments and friendly matches with their national team are scheduled at the end of the European season in June. With regard to the end of a typical football season in May and the start of the preparation for the subsequent season in July, the month of June should remain the period for the off-season break that enables players to recover and regenerate optimally.

Because of the large surface and distances to cover in Africa, Americas and Asia, long flights across several time zones are a major issue. Furthermore, travel arrangements for players are far from ideal (only optimal for high profile players).

## **5 View of professional footballers**

A total of 543 male professional footballers completed the survey on the International Match Calendar (and related dimensions). The results of the main analyses were conducted on the whole group of male players (Table 5.1), as well as on the subgroup of players playing more than 50 official matches per year (Tables 5.2). These analyses revealed the following:

- One-third of male professional footballers report that they are playing too many matches (club and national team) per season. This percentage increases to 46% among those playing more than 50 matches per season.
- Around 40% of male professional footballers report that the number of matches (club and national team) per season has negative consequences on their performance and/or my health, percentage increasing to nearly 50% among those playing more than 50 matches per season.
- Nearly 40% of male professional footballers report that the number of rest days between matches is not enough, percentage increasing to nearly 50% among those playing in some of the top European leagues (England, France, Germany, Italy).
- From 45% to 55% of male professional footballers report that their manager considers the number of matches players have already played when picking a starting eleven.
- Around 60% of male professional footballers report that long flights (>2 hours) have a significant negative impact on their recovery, performances and/or health.

**Table 5.1 Results from the whole group of male players**

<b>N = 543 (55% playing in national team)</b>		Totally disagree	Disagree	Agree	Totally agree
17% ▶ ≤30 matches per year    32% ▶ 31-40 matches per year 27% ▶ 41-50 matches per year    13% ▶ 51-60 matches per year 11% ▶ ≥60 matches per year					
Too many official matches are played every season		15%	52%	25%	8%
Number of matches has negative consequences for performance and/or health		14%	46%	31%	9%
Number of rest days between matches enough to recover		7%	30%	53%	10%
Long-distance flights impact negatively recovery, performance and/or health		6%	33%	42%	19%
Managers consider number of matches played for starting eleven		12%	33%	48%	7%
Mid-season break needed to recover from the first half of the season		85% ▶ yes			
Number of days as mid-season break needed to recover from the first half of the season		14			
Number of weeks off needed to recover fully between two seasons		5			

**Table 5.2 Results from players playing more than 50 matches per season**

<b>N = 129 (54% playing in national team)</b>		Totally disagree	Disagree	Agree	Totally agree
55% ▶ 51-60 matches per year    45% ▶ ≥60 matches per year					
Too many official matches are played every season		12%	42%	32%	14%
Number of matches has negative consequences for performance and/or health		10%	41%	37%	12%
Number of rest days between matches enough to recover		9%	32%	49%	10%
Long-distance flights impact negatively recovery, performance and/or health		9%	34%	36%	21%
Managers consider number of matches played for starting eleven		11%	30%	54%	5%
Mid-season break needed to recover from the first half of the season		85% ▶ yes			
Number of weeks as mid-season break needed to recover from the first half of the season		13			
Number of weeks off needed to recover fully between two seasons		6			

- The vast majority of male professional footballers (80-90%) are in favour of an in-season break in order to recover from the first half of the season. According to the players, such an in-season break should last between 10 and 16 days.
- Male professional footballers needs an off-season break lasting around 5 weeks in order to recover fully between the end of one season and the start of the next one.

An additional analysis of national team players was conducted. The result of this analysis is presented as an appendix.

## **6 FIFPro's recommendations**

FIFPro's findings on the International Match Calendar and its related dimensions leave no doubt about the need to implement measures in professional football in order to empower the players' recovery and performances. Based on both the available scientific evidence and the players' view, the following main recommendations should be addressed by all professional football stakeholders:

1. A congested match week (typically midweek-weekend) should include a minimum of 72 hours between the kick-off of two matches. In order to perform optimally and avoid injuries, a professional footballer should as a general rule not play two consecutive congested match weeks. This principle might not be applicable during major international competitions, and therefore, additional recovery should be provided to players before and after these competitions.
2. Additional recovery should be given to professional footballers after long international flights in order to maintain a good health and perform optimally, especially to those exposed to jet-lag (disruption of body clock and daily rhythm) as a consequence of crossing 3 or more time zones. Being aware that the rule of thumb of one additional recovery day for each time-zone crossed cannot be applied within the current congested match calendar, FIFPro recommends that (i) the number of long international flights is minimized and (ii) minimal travel standards during long international flights, e.g. traveling in business class, are established.
3. An in-season break should be implemented within any typical professional football season. Such an in-season break should last between 10 and 14 days, enabling players to recover (passively or actively) and regenerate optimally out of their club's structure.
4. An off-season break (out of club's structure) lasting 4 to 6 weeks should be made mandatory between two professional football seasons in order to provide players with sufficient time to recover and regenerate, both physically and mentally.

While a cap on the maximum number of playable matches per season cannot be validly established, the application of the aforementioned FIFPro's recommendations would automatically lead to a reasonable maximum match exposure over a 12-month period. These FIFPro's recommendations should be established as mandatory international principles (top-down regulations), and their specific implementation should be based on a collective agreement on a domestic level between player unions, clubs and competition organizers.

## Appendix Subgroup analysis of the survey for male players

### Results from players playing in national teams

N = 300 (100% playing in national team)		Totally disagree	Disagree	Agree	Totally agree
16% ▶ ≤30 matches per year	33% ▶ 31-40 matches per year				
28% ▶ 41-50 matches per year	13% ▶ 51-60 matches per year				
10% ▶ ≥60 matches per year					
Too many official matches are played every season		14%	54%	23%	9%
Number of matches has negative consequences for performance and/or health		14%	48%	32%	6%
Number of rest days between matches enough to recover		8%	28%	54%	10%
Long-distance flights impact negatively recovery, performance and/or health		6%	31%	40%	23%
Managers consider number of matches played for starting eleven		14%	32%	45%	9%
Mid-season break needed to recover from the first half of the season		88% ▶ yes			
Number of days as mid-season break needed to recover from the first half of the season		14			
Number of weeks off needed to recover fully between two seasons		5			