

## Training for Improved Performance (Case Study)

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### Part 1

#### Periodisation

The division of a training program into phases, each period dominated by a set training goal/intention. All sub-divisions are directed at achieving optimal performance from an athlete at a particular stage/ phase of training or performance while optimising training adaptations

Developing sub-divisions within a training year is necessary to ensure athlete does not exceed physiological and psychological limits, training at specific intensity, volume and frequency in relation to period/ phase of training to achieve peak performance at a particular stage/ phase of competition.

A long-term goal consisting of set short-term goals should stem from consultation between coach, athlete and team and will ensure athletes maintain fitness, skill and crucially, motivation.

The duration and time for a particular phase/ cycle of training must be specific to individual athletes, teams and in particular their sport.

#### Post-season/ Off-season transition phase (Example AFL 6-8weeks little/ no scheduled training)

Training drills performed whilst in the 'transition' phase are directed at preventing the occurrence of reversibility, a process whereby upon removing a training stimulus equal to or above that of ones training requirements the physiological adaptations achieved from training are lost. However, corresponding to the detrimental effects on performance that stem from reversibility are the effects of over-training whereby an athlete maintains the same volume and intensity performed during the competition phase throughout the transition phase. By doing so, the athlete will not allow for physiological and psychological recovery and consequently "burn-out", unable to perform at the same level during the next season of competition.

Additionally, the transition phase allows for athletes to address imbalances/ injuries experienced during the competition phase, ensuring that they are as best prepared both physically and mentally for the next cycle of training and competition.

Variety is crucial in post-season training, as it will ensure that athletes maintain motivation while maintaining physiological adaptations achieved throughout the competition phase. With an average duration of around 4-5 weeks the off-season training phase provides opportunity for preparing to achieve a greater level of performance in the next year of competition. By completing basic aerobic and anaerobic conditioning drills in the transition phase an athlete provides a greater physical and mental foundation to be built on than if the where to cease training completely. To cease training completely would result in demand for a greater physical and mental input in pre-season training.

Therefore it can be said that the transition phase requires a balance between recovery from competition phase and maintenance for the ensuing season.

## **Pre-Season phase (AFL 2-4months up to 14-15 sessions a week)**

Aimed at increasing energy systems predominantly used in specific sport to maximum capacities. Pre-season training acts as the preparation phase in which athletes train targeting sport specific muscle groups and systems at a similar volume and intensity experienced in competition. By doing so, athletes develop the physiological adaptations necessary for competition and thus allow for greater emphasis on skill and tactical development in competition phase. While increasing volume and intensity of training it is crucial that coaches do not overload athletes. Whilst in the transition phase athletes may experience the effects of reversibility and thus upon returning to increased levels of physical and mental exertion could experience increased incidence of injury and consequently an inability to perform. For this reason coaches should ensure that the principle of progressive overload is being applied to the training regime thus ensuring a gradual increase in volume and intensity.

Occurs around 8-12 weeks out from competition phase.

Pre-season training acts as a period for building the foundations for in-season training and involves the progressive development of aerobic and anaerobic systems.

## **In-season/ competition phase (AFL 4 games pre season, 22 game regular season, 4 game final series)**

- 22 games preceding 4 weeks of finals
- Teams compete in 1 game per week
- Game: players run between 12-20km consisting of low-intensity <85%MHR (jogging and walking) interspersed with high intensity >85%MHR sprints under 60 m

In-season training is made up of large volumes of skill and tactical development accompanied with a conditioning volume and intensity sufficient enough to maintain the physiological adaptations achieved in pre-season training. The annual plan exemplifies the emphasis on skill and strategic development with 80% of training time dedicated to components of skill comparative to 20% of time allocated to conditioning.

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