



**National
Coaching
Certification
Program**



Performance Planning Reference Material

Context: Competition- Development

Coaching
Association
of Canada



Association
canadienne
des entraîneurs

The National Coaching Certification Program is a collaborative program of the Government of Canada, provincial/territorial governments, national/provincial/territorial sport organizations, and the Coaching Association of Canada.

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Purpose of the Document

This Reference Material provides additional information to help you through the Performance Planning workshop. It was developed to deepen your understanding and knowledge of key coaching topics relevant to Performance Planning. We recommend that you consult this guide regularly even after your training is complete.

You should receive this *Reference Material* along with the Coach Workbook when you register for the Performance Planning workshop.

1. PERFORMANCE FACTORS

The first step towards planning effectively for performance is to conduct a functional evaluation of the skydiving discipline itself. The intent is to consider all aspects that impact performance outcomes so as to be able to design suitable training protocols. These aspects can be classified into the following Performance Factors:

- 1) Tactical
- 2) Technical
- 3) Physical and Motor
- 4) Psychological
- 5) Nutrition
- 6) Equipment
- 7) Environment

Analyzing performance for team events requires a further two considerations: assessment of key functions/demands for each position (i.e. 4-way FS , Point – solo agility, Outside Centre – fall rate and structure, Inside Centre – keys and tempo and Tail – cat grips) and collective performance demands (i.e. synchronicity, grip discipline, exit presentation).

1.1 Tactical

The tactical aspects of a discipline are governed by the required patterns of movement and the decisions that are made to employ particular techniques at specific times during competition. These are influenced by such things as the number and complexity of sequences to be memorized, time allotted for execution and the speed with which decisions must be made. In 4-way FS for example, there are four ways to increase the number of scored points: 1) move faster, 2) cut the distance, 3) minimize moves and 4) all of the above. This may require altering movements, modifying exits, changing grip taking sequence, “cheating” positions and repositioning for slot-switchers.

The choice approach for a particular draw will depend on the team’s strengths and level of development. For Accuracy or Canopy Piloting it may be how an athlete chooses to approach the target or corridor in different wind conditions. Ultimately tactical abilities enable an athlete to quickly assess a situation and produce a response that will provide a competitive advantage and thus increase the chances of a good performance. As importantly, athletes need to develop an inventory of responses in order to adapt responses to similar but slightly different situations.

	Overall Contribution to Performance					
Tactical	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Problem solving	High	High	M L H L	High	Low	Medium
Sequence memorization	High	High	M L H L	N/A	Low	N/A
Canopy control	Low	Low	High	High	N/A	High

1.2 Technical

While tactics are the “what” of the game plan, technique concerns the “how” of execution. This includes the primary, secondary and discreet skills associated with movement. As an example, the tactics of a 4-way FS block may include executing verticals, the set up and finish of the block (to minimize entry time and transition to the follow-on point), cutting short the degrees turned etc. The supporting techniques would be the ability to execute the block sequence, the ability to fly verticals, to take different grips, to create rotation, to coordinate piece-partners etc. For canopy centric events controlling the parachute in different circumstances would be the primary technical element.

	Overall Contribution to Performance					
Technical	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Body movements coordination	High	High	High	Med	High	Medium
Keying	High	High	H H H L	N/A	N/A	N/A
Docking/grip taking	High	High	High	N/A	N/A	N/A
Pieces	High	High	L L H L	N/A	N/A	N/A
Canopy control	Low	Low	High	High	Low	High

1.3 Physical and Motor

Physical abilities are determined by the rate at which energy and force can be produced by the muscles and by the range through which the movements can be executed. Motor abilities support the controlled execution of movements. The physical and motor aspects of skydiving

are discipline specific. The coach must understand the demands of the sport in order to prescribe the appropriate dosage of physical training. More specifically, the coach must know which physical and motor abilities are dominant so that training can be tailored to emphasize those areas. The following chart highlights the major physical abilities required in sport.

Athletic Abilities		
Physical	Speed	The ability to rapidly move the body or a part of the body or execute a series of movements in all out effort of a very short duration. (<i>8 seconds or less</i>).
	Limb Speed	The ability to move a limb(s) once in space at high speed without resistance and with precision (<i>1 sec or less</i>).
	Speed-Endurance	The ability to sustain efforts at near-maximum speed for as long as possible (<i>normally, very intense efforts lasting between 8 and 60 seconds</i>).
	Aerobic Stamina	The ability to sustain a dynamic effort over an extended period of time (<i>normally, efforts lasting several minutes or even hours</i>). Note: Intense efforts lasting between 2 and 10 minutes require a subset of this athletic ability referred to as maximum aerobic power. (Aerobic stamina is a broad term that is sufficient for most sports. In endurance sports, however, the more specific terms aerobic power and aerobic endurance are used.)
	Maximum Strength	The highest level of tension generated by a muscle or muscle group during a maximum contraction, regardless of the duration of the contraction.
	Speed-Strength	The ability to perform a muscle contraction or overcome a resistance as fast as possible (<i>normally, very brief efforts of 1-2 seconds</i>).
	Strength-Endurance	The ability to perform repeated muscle contractions at intensities below maximum strength (<i>normally, 15-30 repetitions or more</i>).
	Flexibility	The ability to perform movements of large amplitude about a joint without sustaining injury.
Motor	Agility	The ability to execute movements or to move rapidly, with precision, and with ease, to change directions or respond to various external stimuli without losing balance, postural alignment, speed or coordination. Agility exercises require coordination and an element of the unexpected.
	Balance	The ability to achieve and maintain stability. There are three types of balance: (1) static balance: adopting a controlled body position in a stable environment; (2) dynamic balance: maintaining control during movement or stabilizing the body by performing muscular contractions to offset the effect of an external force; and (3) the ability to keep an object or another body under control in either a static or dynamic manner.
	Coordination	The ability to perform movements in the correct order, and with the right timing.

	Overall Contribution to Performance					
Physical Ability	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Speed	High	High	H M H L	Low	High	Low
Limb Speed	High	High	High	Low	High	Low
Speed-End	High	High	M H M L	Low	Low	Low
Aerobic Stamina	Medium	Medium	Medium	Low	Medium	Low
Max Strength	Low	Low	M H H H	Low	Medium	Medium
Speed Strength	Low	Low	High	Low	High	High
Strength Endurance	Medium	Medium	H H H L	Medium	Medium	High
Flexibility	High	High	Low	Low	Medium	Medium
Motor Abilities						
Agility	High	High	Medium	Low	High	Low
Balance	High	High	Medium	Low	High	High
Coordination	High	High	High	Medium	High	High

1.4 Psychology

Mental skills enable the athlete to be in the proper state of mind to perform successfully. They are perhaps one of the most if not the most prominent performance factor in skydiving. Barring the obvious dangers involved with the sport that require an athlete's utmost focused attention, most disciplines demand a concentrated effort of coordinated movements/sequences reproduced within a relatively short period of time in competition. Mental skills help recreate movements and sensations that can then be replicated in the air. The chart below provides guidance to coaches as to which are the more dominant skills required for each discipline.

Coaches need to program psychological training into the annual plan as a separate and distinct activity. Furthermore, these skills can be developed and refined at different stages. For example, relaxation should form the foundation for all other skills and should be introduced at the very outset of training. Arousal and distraction control on the other hand can be trained more thoroughly closer to competition time when athletes need to reach a certain optimal mental state in order to perform at their best under the stress of competition. Coaches ought to know the particular mental strengths of each of their athletes and tailor psychological training to ensure that all aspects are at an optimum level.

Mental Skills	Overall Contribution to Performance					
	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Relaxation	High	Medium	High	Medium	High	Medium
Visualization	High	High	High	Low	High	High
Distraction control	High	High	High	Medium	Medium	High
Focusing	High	High	High	High	Medium	High
Arousal control	High	High	High	Medium	High	Medium
Problem solving	Medium	Medium	H L H L	Medium	Low	Medium
Cue recognition	High	High	H H H L	High	Low	High
Interaction	High	High	High	Low	Low	Low

1.5 Nutrition

Skydiving, like any other sport, has its nutritional requirements. Quality nutrition will support both the physical and the mental demands of the sport. The coach must understand what they are in order to recommend a diet that will enhance performance and maintain health. Moreover, nutrition must figure into the overall performance plan. An athlete's diet must always support the energy demands of a particular phase of training and certain key meals need to be well timed to ensure maximum energy and focus during competition. This may include both pre-competition and in competition feeding strategies. Quality nutrition and hydration are also critical to proper recovery and regeneration.

Sustained mental focus is probably the primary performance enabler in competitive skydiving events. As such nutrition should target a balanced diet of carbohydrates, protein and fat to ensure stable blood sugar levels (i.e. the Zone diet 40% Carbs, 30% Prot, 30% Fat). This balance however will vary between athletes and depend on the intensity of training being undertaken (i.e. as the intensity of workouts increases so does the requirement for carbohydrates).

Nutrition should also follow a periodization pattern congruent to each phase. For example, when engaging in low intensity high volume aerobic activity during the General Preparation phase nutrition may lean slightly in favour of more fat and lower carbs while the intensity of activity to boost the aerobic system in the Pre Competition phase may require more carbs to support greater anaerobic efforts.

Nutrition is also very personal. Each person will have different caloric requirements depending on their body size, fitness, health and activity level. Furthermore, everyone has unique tastes and preferences as well as differing tolerance to certain foods and fluids under different conditions. Coaches should be in position to provide general guidelines, have their athletes note

what has worked in the past under certain training and environmental conditions and be ready to recommend consultation with a professional nutritionist if required.

1.6 Equipment

Notwithstanding the obvious safety role of a parachute in skydiving, a parachute assembly's contribution to performance will vary between disciplines. In 4-way FS the container system does not contribute to the execution of randos and blocks. The parachute does not even come into play until after working time is over. An improper fitting rig can however impede performance by preventing mobility (too tight) or disturbing balance (too loose). On the other hand the canopy is the key enabler for a canopy pilot, its size, shape and wing-loading making all the difference in performance. The following table summarizes the relative performance contribution of various pieces of skydiving equipment.

	Overall Contribution to Performance					
Equipment	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Container Fit	Medium	Medium	High	Low	High	High
Main Canopy	Low	Low	High	High	Low	High
Jump Suit	High	High	Medium	Low	High	Medium
Weights	Medium	Low	High	Low	Low	Medium

Another aspect of performance that must be continuously evaluated is the degree of innovation that industry brings to the sport. Equipment is constantly being modernized with new materials, construction technologies and ergonomic designs. Coaches should keep abreast of new developments and seek opportunities for their athletes to trial new equipment when possible (preferably in the off-season) to evaluate potential performance gains.

1.7 Environment

The environment needs to be considered from three perspectives: climatic/atmospheric, geographical and social/cultural.

Skydiving is for all intent purpose an outdoor activity and as such is subject to weather. The weather in Canada, with some exceptions in BC, is not conducive to year-round jumping. Therefore when considering the training demands of high end competition performance it may be necessary to consider planning training camps in more favourable climatic locations.

The effect of temperature on performance is particular to each discipline. For FS temperature will be more important at the surface as it can impact fatigue while in the air (assuming appropriate environmental clothing is worn). It has little impact on the execution of a draw. On the other hand canopy performance for events such as CF, Accuracy and CP will be very much

affected by temperature and wind. Canopy handling characteristics and therefore approaches and maneuver entries will need to be judged differently.

Altitude will have a similar affect as temperature with respect to canopy events. The higher the DZ the faster the canopy will fly on approach. Coaches should consider elevation in their performance planning. For example, if a CP competition is to be held at higher elevation than what is used to then training in a similar location or early arrival for practice should be factored into the performance plan. Altitude and climate also impact diet, metabolism and stamina. Periods of acclimation need to be included when travelling to such areas for competition or simply training.

The social and cultural environment surrounding an athlete may also impact performance. Coaches should consider whether the home DZ is supportive of their athletes' event or competitive ambitions. If a DZ is more focused on recreation to the point where competition development receives little support or attention then it may be in the athletes' best interest to re-locate elsewhere to train or plan concentrated training sessions in the form of training camps in a more suitable and supportive location. The cost of training a competitive (podium aiming) skydiver or team are extremely high. As such coaches ought to help ensure good relations are fostered with host DZs to ensure best rates, access to facilities and general administrative support. In turn, their athletes' performance, professional conduct and example can serve to inspire and encourage others to participate thereby indirectly returning economic benefits to the host DZ and concurrently help shape a more supportive social environment.

	Overall Contribution to Performance					
Environment	4/8-Way	VFS	CF 2 R 4 8	A	STYLE	CP
Temperature	Medium	Medium	Medium	Low	Medium	High
Elevation	Low	Low	High	Medium	Low	High
Wind	Low	Low	Low	High	Low	High
Precipitation	Low	Low	Low	Low	Medium	Medium
Visibility	Med	High	High	High	Medium	High

2. PERFORMANCE PLAN DEVELOPMENT

Competition development specifically targets three stages of Long Term Athlete Development (LTAD): Learn to Compete (L2C), Train to Compete (T2C) and Train to Win (T2W). Performance planning should be appropriately tailored for each context. The recommendations provided by LTAD are general guidelines that provide excellent direction and a solid foundation upon which to construct suitable performance plans. Nevertheless, training plans will need to conform primarily to the particular needs of the athletes.

2.1 Learn to Compete (L2C) 51-400 jumps

In the earlier stages the athlete was introduced to competition as a means of enriching their skills development and enhancing their skydiving experience. The athlete has solid sport specific basic skills and the next step is to learn to perform well when in a competition environment. He/she also determines which part of the sport is preferred and considers which skydiving path to follow - recreational, competitive or both. The skills and knowledge gained here are at times subtle but extremely valuable. A great deal of time and effort is required of both the athlete and coach so the training is kept positive, stimulating and enjoyable.

2.1.1 Athlete Objectives:

- ❖ Consolidate and refine basic sport specific skills
- ❖ Acquire and develop new discipline specific skills
- ❖ Acquire new practical tactical knowledge for competition
- ❖ Further develop general and sport specific strategies
- ❖ Further develop mental techniques and strategies
- ❖ Develop a competition plan related to the climatic conditions and other aspects to be taken into consideration the day of the meet
- ❖ Further develop the 5 S's - stamina; strength; speed; suppleness; & skills
- ❖ Commit to yearly program - take responsibility for training, preparation, performance and recovery
- ❖ Optimize ancillary capacities
- ❖ Be coachable

Goals to achieve: C CoP, learn discipline specific skill, attain Provincial average.

Competitions: Local, Provincial, Regional.

2.1.2 Coach Objectives

The mission of the coach is to raise the performance capacity of the athlete and ensure the transfer of discipline specific learning to a competitive environment. There will be discipline specific physical conditioning, more sport specific skills acquisition and the development of ideal performance state for pre-meet preparation and competition. The athlete and coach will work in concert to arrive at a training plan that is beneficial for both and achieves the objectives of this stage of development.

- ❖ Strive for ideal performance state through competition conditions simulation including active time/rest time
- ❖ Gradually increase the training load (volume of training and intensity)
- ❖ Ensure the skill or tactic is stabilized in controlled conditions (set repetition of specific skills or jumps) as well as varied conditions (simulated competition demands)
- ❖ Create conditions where the athlete has to perform the skills or tactics in a state of light to moderate fatigue in order to prepare him/her adequately to the competition requirements
- ❖ Extend the limit of the athlete's performance capacity methodically, systematically in order to improve
- ❖ Apply single or double periodization (yearly planning)

Training to Competition Ratio: 70:30.

Training Volume: 15-30 hrs/week, 90 day training macrocycle.

2.1.3 Keys to Success

At this stage we must inspire the athlete to compete and test their skills at the next competitive level. The coach must set realistic expectations and goals in which success can be measured in a positive way. The athlete's motivation must be intrinsic in nature with a key focus on success and enjoyment. While the earlier stages were about the individual this stage is about being part of the group. Team building is extremely important as it is at this stage that new team members "make it - or break it". A strong technical and psychological model is needed to help new athletes and teams integrate into the competitive community. At the end of this stage the athlete will have an appreciation for the dedication that training takes, the hard earned skills needed and the satisfaction of testing themselves in competition. Valuable life skills such as responsibility, introspection, risk taking, focused concentration, etc are part of the learning at this stage. The athlete is ready to move to the next stage - Train to Compete.

2.2 Train to Compete (T2C) 400-1000 jumps

Now that the discipline basics are well consolidated the athlete will progress to a year round training program. This stage raises the bar from Provincial to National level performances. As a rule of thumb, we recommend that approximately fifty percent of the training will focus on skills development, physical conditioning and tactical knowledge. The remaining fifty percent will develop competition readiness and integrating the performance factors to reach a competition performance.

Optimizing preparation through competition simulation plays a key role. The coach will expect athletes to extend to the limit of their performance capacity during training. Anything less will alter the motor coordination of the athlete. The choice of actual competitions will reflect the performance level of the athlete or team. Each competition will have a training focus and a goal. Developmental competitions will be used to challenge the athlete to implement what they have learned to that point and to assess their training. Higher level meets will test the athlete's mental focus, preparation skills and ability to perform on demand.

2.2.1 Athlete Objectives

- ❖ Further develop general and sport specific fitness with more emphasis on the specificity of the discipline (i.e. upper body strength for CF, CP, VFS and Style)
- ❖ Use proper nutrition, hydration and acquire the knowledge of the proper use of dietary supplements during travel and competition Consolidate discipline techniques and develop consistency in implementing variants of basic skills and the new skill acquired in a competition environment Increase the repertoire of practical tactical knowledge for competition
- ❖ Extend to the limit of their performance capacity
- ❖ Improve decision making and problem solving (individual tactics)
- ❖ Become autonomous and actively participate in his or her own development
- ❖ Integrate mental skills in daily activities: distraction control, emotional control, mental imagery, visualization, internal dialogue, concentration, etc.
- ❖ Refine Ideal Performance State
- ❖ Know and abide by the rules - of the discipline and of the team
- ❖ Enjoy a sense of belonging and shared commitment within a unique group
- ❖ Commit to year round training with self motivation

Goals to Achieve: D CoP, attain National average

Competitions: Provincial, Regional, National Championships.

2.3 Coach Objectives

The mission of the coach is to integrate the multiple performance factors needed for the athlete to succeed under a variety of training and competition conditions. The program will build on the person's strengths and try to reduce their weaknesses. The coach must understand the factors that influence tactical thinking when the athlete is confronted by a decision making situation: speed of the action taking place; quality of observation of the athlete; experience and tactical knowledge of the athlete; memory (remembering practical problems solved) and emotional state of the athlete.

- ❖ Performances of basic skills to reflect competition intensity/density
- ❖ In training, more time should be spent simulating competition demands (varying conditions) than on set repetition of specific skills or jumps (controlled conditions)
- ❖ Apply single, double or triple periodization based on athlete needs and competition calendar
- ❖ Develop the performance capacity of the athlete/team and integrate the performance factors (10S's) to reach a peak performance at the right time
- ❖ Monitor fatigue/recovery adequately
- ❖ In team sports, emphasis in training should be on cooperation, synchronization between athletes and speed of execution
- ❖ Increase the success rate of skills execution in training and competition - focus on execution not results
- ❖ Increase the success rate of the basic practical tactical knowledge implemented in competition

Training to Competition Ratio: 50:50.

Training Volume: 30 hrs/week, 120 day training macrocycle.

2.3.1 Key to Success

By this stage the athlete is willing to push or stretch his/her limits and focus on achieving their personal best. The training intensifies and a strong team attitude is paramount. The athlete has acquired, consolidated, refined and utilized a myriad of skills, techniques and tactics which enhance their competition repertoire.

Moving to the next stage the athlete should be comfortable competing at national level competitions and have had some exposure to the international arena. Most importantly, the skydiver now knows how to train effectively for competition. The next stage strives for excellence.

2.4 Train to Win (T2W) 1000+ jumps

This is the transition stage to international competitor. The traits of the top competitor will have become apparent - confidence, competitiveness, desire, work ethic, mental toughness, enthusiasm, and imagination.

All of the accumulated skill, technical knowledge, tactics and conditioning will be raised to optimum levels. The discipline techniques will be refined and maintained. Working with the coach, sport medicine and sport science specialists the skydiver will try to improve their competitive abilities. All training will be highly individualized to try to maintain peak performance over a long period of time. Special care will be taken to tailor the multiple periodizations not only to the international competition schedule but to recognize physical and/or mental fatigue. Over training, recovery time and injury prevention are of real concern. Goals and decision making will be collaborative between the skydiver, the coach and the Integrated Support Team (IST).

Due to the increased demands at this level, attention should also be paid to the management of other factors affecting the athlete and their career such as support staff, sponsors, media, family, finances, travel, etc.

2.4.1 Athlete Objectives:

- ❖ Maintain a healthy lifestyle
- ❖ Create a balance between training, competing and home life
- ❖ Be creative within discipline - push the edge in training
- ❖ Maintain focus - "The Big Picture"
- ❖ Be constructively critical of self
- ❖ Self motivate
- ❖ Be collaborative with coach and Integrated Support Team (IST)
- ❖ Recognize what works - evaluation during training and after competitions
- ❖ Be ready
- ❖ Improve
- ❖ Ideal Performance State
- ❖ Full commitment to the pursuit of international excellence

Goals to Achieve: attain International average

Competitions: National Championships, World Cup, World Championships.

2.4.2 Coach Objectives

The mission of the coach is to plan and integrate all aspects of training and performance to model the requirements of international competition.

- ❖ Sequence adequately and integrate all performance factors
- ❖ Maintain “peak performance” level - continual improvement; be able to perform on demand
- ❖ Training is punctual and temporarily focused on specific preparation for major events.
- ❖ Concentrate training on simulating competition demands (varying conditions) more than on set repetitions (controlled conditions)
- ❖ Training is designed to maintain “peak performance” level - continual improvement
- ❖ Monitor fatigue/recovery adequately and ensure injury prevention
- ❖ Include breaks in training to permit recovery and to avoid overtraining and injuries
- ❖ Ensure access to sport medicine and sport science specialists
- ❖ Be effective in managing and leading the Integrated Support Team (IST)
- ❖ Manage all demands related to their career (support staff; sponsors; media, etc.)
- ❖ Explore aspects related to athlete’s post sport career

Training to Competition Ratio: 40:60.

Training Volume: 30+hrs/week, 180 day training macrocycle.

2.4.3 Key to Success

The athlete has the dream and the training is driven by the athlete’s desire to reach the podium. The coach must be effective in supporting the athlete’s dream by designing the pathway; integrating all of the performance factors required; ensuring the athlete is in the ideal performance state; leading the support team and facilitating the emotional support the athlete may need in any given situation. The athlete is at the center and support driven by the coach.

3. SETTING UP THE TRAINING YEAR (PERIODIZATION)

The fundamental purpose of performance planning is to formulate training and preparation strategies that suit the experience level of athletes so as to achieve podium results. This involves careful development of periodized training plans to optimize training and recovery to deliver athletes to key competitions in peak form. To be effective training plans require ongoing evaluation and adjustments.

3.1 Training

Training is a process of improvement. It is the act of engaging in activities that stress the body, that challenge abilities and that promote recovery with a view to improve current performance.

3.1.1 Training Plan

A training plan is a road map that charts the sequence of training tasks in a logical pattern over the course of a defined period, tailored to the athlete's needs and goals, which will lead him/her to their best competition performance.

3.1.2 Training Principles

To be successful, a training plan must follow some basic principles.

Principle 1 – Adaptation

Training is about achieving new levels of performance. Progress is only possible if the athlete is appropriately challenged and also provided with proper recovery. Adaptation – the morphological reorganization of functional systems - actually occurs following the application of training stimuli when the athlete has time to recover. Although adaptation can be viewed as the sum of the two variables - stress and recovery, too much of one can impede adaptation. If training loads are excessive, or there are insufficient opportunities for recovery, the athlete's functions will deteriorate, and so will adaptation. Therefore a training plan must always aim to optimize adaptation.

Principle 2 – Recovery

Recovery is the process of re-setting an athlete's ability to function ideally at a new level of performance. Recovery can be both active (easy exercise), passive (complete rest, hot bath), and passive-active (massage). The type, quality and timing of recovery activities is as important, if not more so, than training itself. It is an opportunity for the athlete to regenerate physically and mentally making him or her ready for the next training cycle.

Principle 3 – Discipline Specific Overload

It is important to push athletes beyond their current abilities to stimulate growth. The same training dosage will only lead to a plateau in performance. A coach must always strike a balance between training needs and other extrinsic demands (work, school, family) to produce positive adaptations in their athletes. An imbalance or an excessive overload in training can quickly lead

to overtraining, whereby an athlete's performance and health (physical and mental) deteriorate. While physical fatigue can be salvaged relatively quickly, overstressing the central nervous system (CNS) can be extremely detrimental (the CNS takes 7 x longer to recover than skeletal muscle). If not carefully managed, overtraining may even push an athlete to abandon the sport altogether (burn out). It is therefore imperative that a coach be able to recognize the symptoms of overtraining and make immediate readjustments to the training plan (reduce load or vary training and apply recovery interventions). Also note that overloading effectively means targeting the specific metabolic requirements and motor abilities of the skydiving discipline not simply overloading with any form of exercise that could promote "getting into shape".

Principle 4 – Individuality

A training plan must fit the individual athlete's needs. To optimize training a coach must take into consideration an athlete's current abilities, physical disposition, psychological state and extrinsic demands when formulating a plan. A training regime that is beyond an athlete's capability to cope with will impede progress. The athlete will lose their desire to train and once motivation is affected, physical performance will inevitably be undermined. It is essential that a coach take the time to know their athlete's limitations and work creatively within those boundaries. Imposing a one-size fits all training regime or one that has worked for another successful athlete may lead to disappointment. Care must be taken to ensure athletes receive proper individual consideration to optimize their performance.

Principle 5 – Progression

Progression requires that an athlete builds on recent adaptation. This means that a coach must carefully monitor performance feedback in order to precisely time and quantify the next training load. The aim is to keep the athlete's performance moving forward, achieving the next milestone that will bring them closer to their end-goal. If progress is not being made then the plan must be readjusted.

Principle 6 – Specificity

Training must be tailored to the demands of the event particularly as time approaches the event itself. Depending on how much time an athlete has to train will also determine the level of specificity within a training regime. An athlete who can afford to train full time will have the luxury of engaging in more supporting (cross-) training activities in the early part of a training cycle than one with a full time job who will need to focus more on competition specific training whenever possible.

Principle 7 – Consistency

A systematic and methodical approach to training is essential. An athlete with the discipline to train consistently will show positive adaptations quicker, even if training sessions were missed periodically, than one who trains ad hoc or with no semblance of order. A coach must therefore ensure that a training plan allows an athlete to practice with sufficient frequency and that the volume and intensity of training are such that the athlete can manage within their schedule.

Principle 8 – Purpose

Every training session or supporting recovery time must have a clear purpose to ensure the desired training effect and adaptation is achieved. It is important that athletes also understand the purpose of what they are doing and why. This helps maintain focus and encourages quality of training.

Principle 9 – Variation

To ensure continuous and systematic progress training must be varied on two fronts. First, the stimulus or training load needs to vary according to the period/phase, according to biological and physical responses and the demands of the competitions being targeted. If the training stimulus remains constant the athlete will adapt and remain at that same level of performance – a plateau. Even if the same energy system is being targeted, variation can increase the quality of training and result in new adaptations and improvement. Second, variety is the spice of life and as such brings an important psychological component to training with respect to motivation. Constantly performing the same training routines (whether in terms of choreography or at the same intensity) will bring monotony and boredom and inevitably decreased performance directly proportional to the athlete's declining motivation. This is where the art of coaching also comes into play, knowing when and how to change things to optimize both psychological and physiological performance.

Principle 10 – Interference

“When one door opens, another shuts”. It is important to understand and recognize that one type of training load on a system can temporarily or permanently impede development of another. For example, heavy weight training will impact flexibility. Or, excessively high volumes of anaerobic training will erode an aerobic foundation. This principle has bearing on the types of training that must be focused on during each phase, the application of relative proportions of one type of stimulus to another and ultimately the overall sequencing of training in a given training year.

Principle 11 – Reversibility

“Use it or lose it”. Simply put – adaptations are not permanent. This principle impacts how volume, intensity and frequency of training are manipulated to ensure progress or maintenance of performance. In general, when volume is decreased (i.e. taper) then intensity is increased to maintain a desired level of performance. If recovery is sought than decreasing both volume and intensity proportionally will also help maintain if not promote performance. However, ceasing to train the physical or the motor aspects will lead to regression proportional to the time off. The key to preventing reversibility is the appropriate timing of varying training loads in the performance plan.

3.1.3 Training Components

The three principal components that a coach must modulate in a training plan are intensity, volume and frequency.

Intensity

Intensity refers to the load quantity applied to a training session, cycle or annual plan, usually expressed with heart rate, power or speed. In skydiving, intensity is best expressed with speed (half-speed, competition speed/on the line, over the line), concentration (back-to-back jumps) and complexity (slot switchers).

Volume

Volume refers to the total amount of training that is applied to a session, cycle or annual plan, usually expressed as either distance or time. In skydiving a coach should consider number of jumps, tunnel time and total amount of supporting athletic activities.

Frequency

Frequency refers to the number of times a training session is repeated within a cycle. This is the same for skydiving.

It is the coach's responsibility to carefully manipulate these three variables to optimize adaptation and progression. Intensity and volume vary depending on the specific training phase/cycle an athlete is in. In general, volume tends to be higher at the outset, during the General Preparation Phase while intensity reaches its peak usually closer to competitions. However, the two are almost inversely proportional. As one goes up, the other goes down. The amount of variance depends on timing within a training plan and the adaptations a coach wishes to elicit from their athlete(s).

3.2 Periodization

Periodization stems from "period", a segment of time. It is the process of dividing the year into focused phases that arrange training into a logical sequence to optimize time and performance progression. Therefore periodization requires the coach to consider two aspects: the annual plan itself - apportioning the year into phases and bio-motor abilities, and structuring each phase with the appropriate type of training.

Three types of cycles are used to divide the training year: macro-cycle (half-year, one year, multiple years), meso-cycle (blocks of 2-6 weeks) and micro-cycle (2-7 days).

MACRO > MESO > MICRO

The training focus and load of each meso and micro-cycle is defined by the overall objective of the higher cycle within which it finds itself.

Periodization can assume different formats – single (mono), double (bi), triple (tri) or multiple (multi) cycle – depending on the level of the athlete and the number of key competitions envisaged. A cycle in this context refers to a block of preparation and competition. The number of cycles is determined by the number of peak competitions. A mono-cycle is best suited for a one competition year or for junior athletes. More experienced athletes can afford to engage in multi-cycle training plans.

In the LTAD context, periodization connects the stage the athlete is in to the requirements of that stage. LTAD addresses this requirement by developing periodization models for all stages, taking into consideration the growth, maturation, and trainability principles. Monocycle = L2C (novice/junior), bi-cycle = T2C (intermediate/proc/natl) and tri-cycle = adv/intl level (T2W).

The three major periods within a macrocycle are Preparation, Competition and Transition. Each of these is further subdivided into more focused sub-phases or stages: General Preparation (GP), Specific Preparation (SP), Pre-Competition (PC), Competition Specialization (CS),

Recovery and Regeneration (RR) and General Conditioning (GC). Each of these in turn may consist of one or more meso-cycles:

3.3 Periods & Phases

Preparation

Stage 1: The General Preparation (GP) Phase

The GP phase is perhaps the most important of all the phases. It establishes the foundation of success for all other phases and the training year as a whole. Like a house's foundation, the GP phase establishes the strength and integrity of the entire training plan. If it is weak or incomplete then desired performances are less likely to be achieved. As such great care and perhaps most importantly discipline must be applied to its design and implementation. The focus of this phase should be on building a solid foundation of fitness and skill to prepare athletes for higher intensity work in later stages.

Emphasis should be placed on increasing physical condition (peripheral aerobic system) doing continuous and varied activities, developing technique (accuracy and quality of movement) and introducing psychology (visualization and relaxation). Strength training is introduced. Nutritional education should also feature. This phase is usually characterized by high volume and low intensity. The low intensity aspect is critical. High intensity physical training produces by-products such as lactate that impedes peripheral aerobic development while excessive excitation of the CNS interferes with motor development. The GP phase can last up to 8-16 weeks.

Stage 2: The Specific Preparatory (SP) Phase

The SP phase, usually 4 - 8 weeks, aims to boost performance to an optimal level. Volume and particularly intensity are increased. Athletes continue to build their aerobic base with training gradually shifting emphasis to the central aerobic system. Strength and stamina training should become more discipline specific. The complexity of technical and tactical training is increased using different combinations to closer approach competition demands. Mental training is also tailored to the specific discipline. Competitions of lower importance can be introduced as part of the training regime to gain experience and test certain practices.

Competition

Stage 1: The Pre-Competition (PC) Phase

The PC phase focuses on preparing the athlete for competition. Training volume remains high and intensity is increased. As such fatigue and signs of injury must be carefully monitored. Quality rest days should follow days of high intensity training. Realism and tactical work are introduced using competition specific training scenarios and conditions or even low priority events. Emphasis is placed on consolidating and perfecting technique to optimize competition performance. At this stage the coach verifies, possibly through appropriately placed competitions, the athletes' preparation and condition (mental and physical) to determine where adjustments and refinements need to be made in the training plan leading into the main competition period. This phase may last 4-6 weeks.

Stage 2: The Competition Specialization (CS) Phase

This phase, lasting anywhere from 4 – 8 weeks, focuses on the specific demands of the actual competition(s) and ensuring athletes are fully ready to compete at their best. Skills are sharpened, tactics perfected. Volume is significantly reduced while intensity is maintained at a high level for short periods. Rest and recovery interventions are implemented to erase fatigue to ensure physical health is maintained and that the athlete's psychological state is optimal for competition. A key aspect of the CS phase is the proper implementation of the tapering and peaking plan.

Tapering involves the careful and calculated manipulation of volume (low) and intensity (high) of training in the last one to three weeks leading into a competition to allow athletes to regenerate in preparation for the main competition. A poorly planned taper can easily ruin a year's worth of work. The aim is to make an athlete peak on competition day. Too much rest and the athlete may peak early. Too little and they may enter the competition fatigued. The length of the taper will depend on the level of training and importance of the competition. Of note, there can be only one or two major peaks in the same competitive phase but the first peak is seldom a full peak. It is a minor peak used to assess athletes' preparations and modify training for the second and more important phase or competition.

Transition

Stage 1: The Regeneration and Recovery (RR) Phase.

RR is critical to the athlete's short and long term well being. It is an opportunity to regenerate physically and mentally from the stress of training and competition. This mesocycle is not only an end-of-year compensation. It may be included at various points in the year when implementing a multi-cycle periodization plan. This phase may last 2-4 weeks and should include active methods of recovery. This will help maintain some level of fitness that will ease the transition to the next block of training (maintaining a certain level fitness is always easier than acquiring it in the first place). Diversifying training activities is particularly helpful to rejuvenate the mind. This is also an opportunity to reflect on accomplishments thus far and to readjust goals or plan new ones.

Stage 2: The General Conditioning (GC) Phase.

The RR phase allows the body and mind to reset. Fitness and performance will inevitably diminish from what they were prior to competitions. Training routines will have been diversified as well. The GC phase therefore aims to prepare the athlete to train again. The focus is on physical conditioning and re-introducing a structured training routine to prepare the athlete to start the GP phase. During this time the coach and athlete lock in goals for the upcoming year and the YTP is completed (at the macro and meso cycle levels). This phase should last 2-4 weeks.

The following table summarizes the periodization of various physical and motor abilities for 4-way FS:

Phase	Load	Physical	Mental	Jumps	Tunnel
General Conditioning	Medium volume Low intensity	Fundamental physical qualities General activities core, general strength, cardio, flexibility	Goal setting, relaxation	Easy random sets, grip/key discipline	Basic motor skills Individual flying skills Simon-says drills
General Preparation	Medium to high volume Low to medium intensity	Core and general strength, cardio, flexibility	Basic psychological skills Relaxation, visualization	Review all randoms & blocks Develop team pace	Randoms, blocks Develop team pacing, keying, anticipation Stop drills
Specific Preparation	Medium volume Medium to high intensity	Specific functional physical qualities Cardio, core, flexibility, limb speed	Specific psychological skills Visualization, distraction control Boost memorization (dives with 6,8,10 points)	Basic and more complex motor skills Introduce comp speed, refine slot switchers and team pace Individual and group tactics	Basic and more complex motor skills Refine transition speed Work out slot switchers Speed endurance drills Individual and group tactics
Pre-Competition	Medium volume Medium to high intensity	Maintenance of physical qualities Cardio, flexibility	Specific psychological skills Focusing and auto-activation Distraction control, arousal control	Pre-competition and competition strategies Practice from comp altitude	Refine individual and group tactics Fine tune strategies and tactics for blocks, grip management Sprint drills
Competition Specialization	Optimal load (in terms of training objectives) Tapering – low volume and high but short intensity	Light cardio with some sharpening intensities, flexibility	Arousal control	Implement strategies and tactics Fine tune blocks, random transitions Practice all types of draws (all R, 3R & 1B, 2R & 2B, 3B)	Practice all types of draws (all R, 3R & 1B, 2R & 2B, 3B) Lock in competition speed/pacing
Recovery and Regeneration	Low volume Low intensity	Alternate activities Low impact cardio (hiking, swimming, cycling), massage, hydro therapy	Performance review	Diversify Try/work on different activity that is individual (i.e. CP, sit fly, head-down)	Diversify Try/work on different activity that is individual (i.e. sit fly, back-fly, head-down)

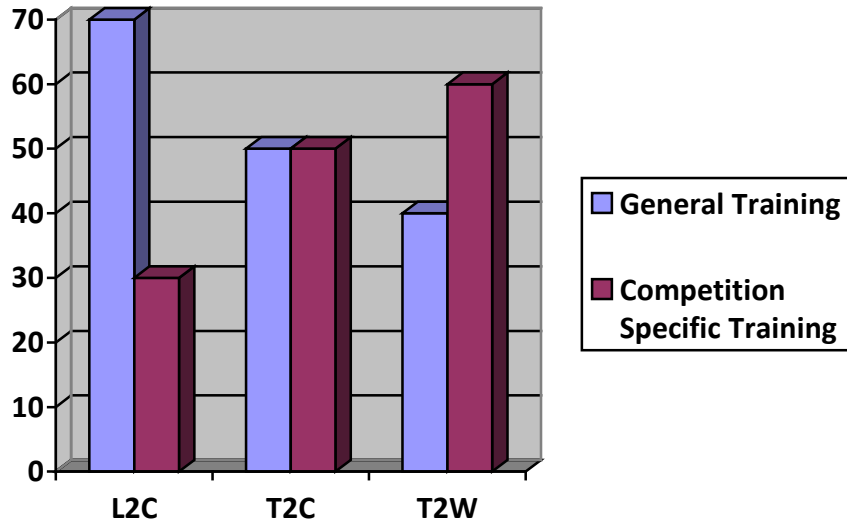
The following table summarizes the periodization of strength training for skydiving:

Phase	Purpose	Method	Load	Volume	Frequency
General Conditioning	Phase 1: adaptation	Circuit training with sufficient rest to ensure proper technique and quality of movement	Body weight (BW) or light weights (free or machine) @ 40-60% max	1-2 x 6-12 stations with 1' rest interval (ri) between stations, 5'ri between sets	2 x week
	Phase 2: basic strength and stamina	Circuit training with less rest to stimulate aerobic aspects	Body weight (BW) or light weights (free or machine) @ 40-60% max	2-3 x 6-12 stations with 20-40" rest interval (ri) between stations, 2'ri between sets	2-3 x week
General Preparation	Strength endurance	Free weights and BW exercises	40-65% max and BW	12 exercise, 2-3 x 20-40 reps with 1'ri	2-3 x week
Specific Preparation	Strength	Free weights and BW exercises	70-80% max and BW (with added weight if needed)	8-10 exercises, 2-4 x 10-15 reps with 2'ri	2-3 x week
Pre-Competition	Strength & strength endurance	Free weights and BW exercises	70-75% max and BW	6-8 exercises	2 x week
Competition Specialization	Maintenance	BW exercises	BW	6-8 exercises	1 x week, nil during last two weeks before competition
Recovery and Regeneration	N/A				

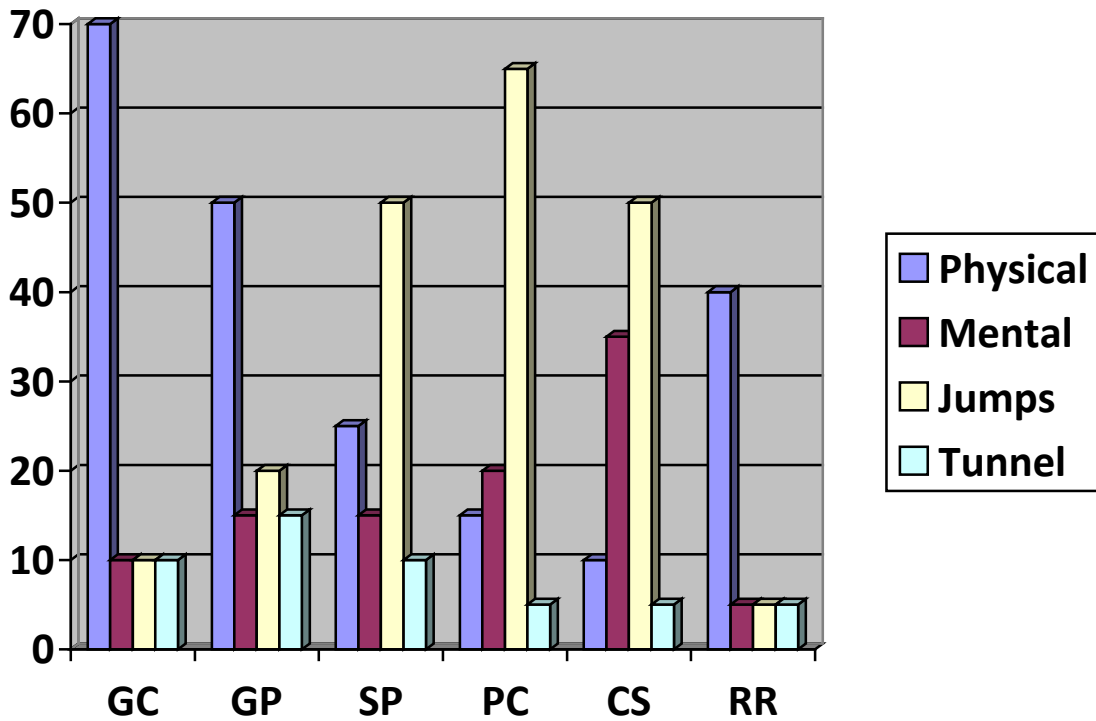
Training Proportions

Periodization also applies from year to year. When considering long term goals or objectives it is important to ensure that each year builds on the previous one and that the focus of training or the apportionment of effort follows a logical progression to suit the ability level of the athlete(s) as shown in the first chart. The second chart illustrates the distribution of emphasis on various training modalities for 4-way teams at different levels of progression.

Apportionment of Effort for Different Stages of LTAD (4-way)



Training Proportions by Phase (4-way FS)



3.4 Goal Setting

Goals provide meaning, purpose and direction to a training plan. In essence they help map out the road to success. Goals must be:

- ❖ **Specific** - clearly defined;
- ❖ **Measurable** – can be quantified;
- ❖ **Appropriate** – relevant to the athlete(s) current skill level, physical condition, personal disposition (time to train, finances) and level commitment;
- ❖ **Realistic** – achievable yet challenging;
- ❖ **Trackable** – can be recorded; and
- ❖ **Valuable** – must have personal meaning making risks and sacrifices worthwhile.

Goals are usually divided into:

- ❖ **Long term** – one year to multi-year outlook;
- ❖ **Medium term** – corresponds to end of a training cycle; and
- ❖ **Short term** –goals that link daily activities/training to long term goals.

There are two main types of goals: **outcome** and **process**.

Outcome goals relate to the WHAT of competition and personal self-improvement performance. These can be measured objectively through changes in performance or results.

- ❖ **Competition results** – are the outcomes of an athlete or team at an event. They may include score, placing and ranking. These goals are often subject to external factors.
- ❖ **Self-improvement goals** – are measurable changes in personal performance such as fitness, speed, mental acuity, strength and are independent of results in competition. These are more under the athletes' control.

Process goals relate to the HOW of goal achievement. For example, achieving fitness objectives by consistent attendance at scheduled training sessions, or improving performance in a particular skill domain by training X-times/week. They are usually short-term behavioral goals that are progressive and observable enabling an athlete/team to chart a path to the long-term goal.

Impact of effective goal setting for athletes:

- ❖ Less anxiety and stress;
- ❖ Better able to maintain focus and effort in training;
- ❖ Higher levels of self-belief and self-confidence;
- ❖ More motivation; and
- ❖ Better able to cope with competition results.

Goal setting is a collaborative effort between coach and athlete/team. Athletes need to take ownership of their goals. The coach merely facilitates their articulation and then helps chart the path to achieve them. Some of the benefits of collaborative goal setting include:

- ❖ Clearer goals and priorities
- ❖ Increased commitment and motivation
- ❖ More defined successes
- ❖ Increased confidence
- ❖ Improved coping mechanisms for adversity
- ❖ Encourages more open communication between athlete and coach
- ❖ Improved performance because targets are challenging yet achievable

Measurable Goals for 4-way development

LTAD Stage	L2C	T2C	T2W
Level	Provincial	National	International
Category	Junior/Intermediate	Intermediate/Open	Open
Points Avg	8-15	14-21	19-25
Tng%:Comp%	70:30	50:50	40:60
Tng Hrs/Yr	300-600	500-800	800-1000+
Tng Hrs/Wk	12-18	16-21	20-30
Team Jumps	50-250	200-400	500-600
Tunnel Hrs	<10	10-15	15-20

3.4 Building Recovery into the Performance Plan

Improvement in performance depends on the athletes' successful adaptation to training demands. Adaptation is based on a balanced and well calculated relationship between training stimulus/load and recovery. It is during the "down time" that the athlete's body can replenish energy stores, strengthen muscle fibres and connective tissue as well as impregnate essential motor patterns into the nervous system. This recuperation process then enables the athlete to assume greater workloads in subsequent training evolutions. As importantly, well timed recuperation also mitigates the onset of various orthopedic injuries as they relate to chronic overuse (vice accidental) injuries and vulnerability to viral infections resulting from a depressed immune system.

Training however does not unfold in isolation. Extrinsic stressor factors such as work, school, family, illness, commitments etc. also very much compound fatigue. Therefore it is imperative

that coaches have a good grasp of all factors that impact an athlete's ability to perform and adapt to training and to deliberately plan for and adequately manage recovery.

Recovery is introduced into the performance plan at all levels, from periodization of the various phases to the scheduling of dedicated recovery sessions or pauses within a microcycle. The appropriate **timing** and **quality** of recovery sessions can bear huge impact on an athlete's performance in the short and long term. The coach must anticipate the fatigue levels ensuing from prescribed training and design the training sequence accordingly, all the while remaining flexible to adjust the schedule as extrinsic stressors are considered.

Timing recovery to optimize a peaking process within a tapering phase leading into a competition is perhaps the most intricate and challenging calculation for a coach. More on this can be found in the Tapering and Peaking section below.

The following chart offers a sample of suggestions that could help an athlete recover from or compensate for possible stressors:

Example

Possible Stressors	Factors that Could Assist Recovery
Tight muscles	Regular stretching routine (pre/post training)
Neck, shoulder and lower back pain	Regular massage schedule
Low energy	Respect sleep hours, pro-active hydration and nutrition
Poor weather	Plan a training camp in more favourable wx
Work/school commitments	Sticking to a routine
Illness	Respect rest days
Travel.	Pro-active rest (time change)
Competition anxiety, fatigue	Engage in unrelated social activities or hobbies

Even with deliberate planning for recovery coaches must monitor for signs of fatigue and overtraining. Some common signs are listed in the following table:

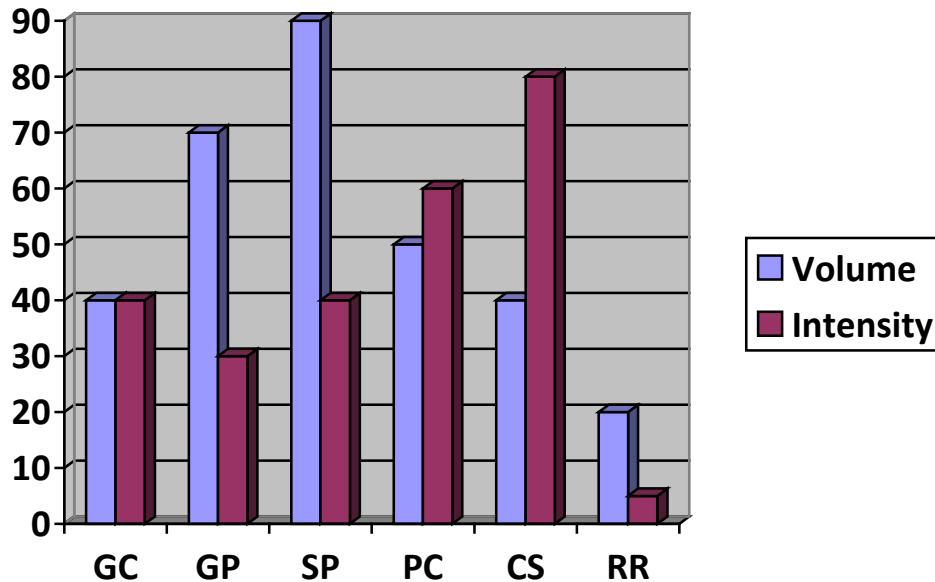
Physical Signs	Motor Signs	Psychological Signs
Elevated resting heart rate	Decline in coordination	Lethargy
Reduced speed and strength of body movements	Decline in agility	Decreased focus
Frequent illness and slow recovery (depressed immune system)	Impaired balance	Reduced motivation
Poor sleep		Disrupted short term memory

Physical Signs	Motor Signs	Psychological Signs
Injuries		Change in mood/attitude towards training
		Tension
		Depression

3.5 Determining Training Loads

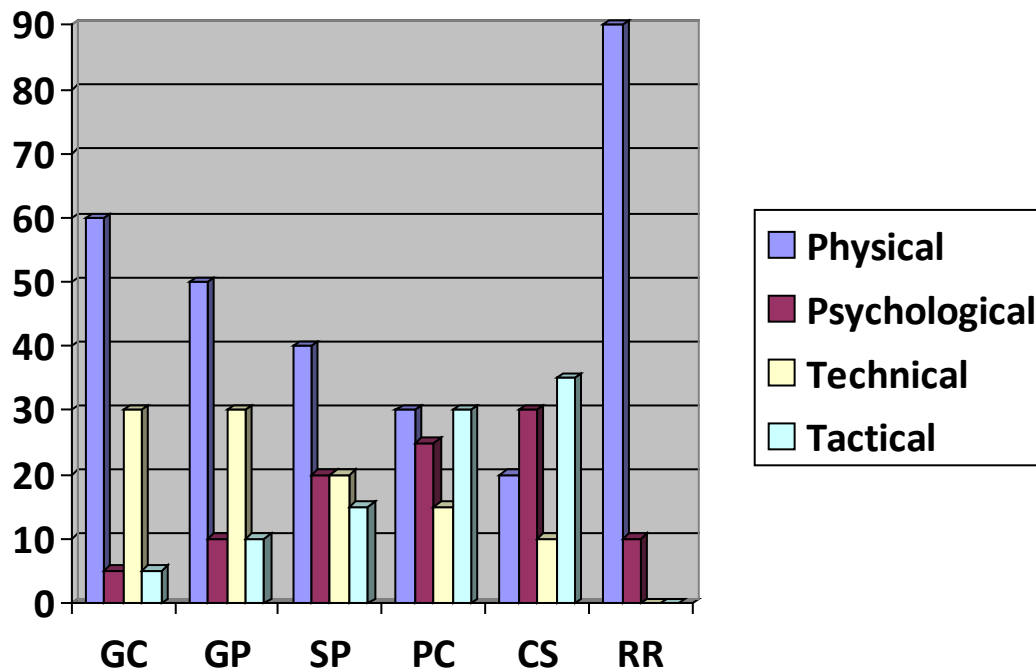
Training load is defined as the sum of volume and intensity. In simple terms it can be defined as either High (H), Medium (M) or Low (L). It is separate and distinct from cumulative load which is the sum of all stresses imposed on an athlete. The science of periodization lies in the calculated application of training loads in the right quantity, duration and time in the plan to ensure performance progression. The art of periodization lies in the proper tailoring of these variables to suit a particular athlete or team. As importantly, the coach must also know when and how to readjust when required to adapt to circumstances, usually unforeseen (i.e. illness).

Relationship between Volume and Intensity in a Training Year



Note: Graph illustrates the “relative” emphasis between each variable and is not intended as a quantitative prescription.

3.6 Prioritizing Performance Factors in YTP



Note: Graph illustrates the “relative” emphasis between each factor and is not intended as a volumetric prescription.

3.7 Tapering & Peaking Strategies

Peaking describes a state of being in the absolute best condition (physical, emotional and mental) at a specific time for a competition.

Tapering is the practice of carefully reducing training volume, intensity and frequency in the right amount in the days/weeks leading to an important competition to ensure peaking is achieved. In general, the tapering pattern usually involves a gradual reduction in training volume while, relatively, maintaining intensity with an exponential drop in all three variables in the days immediately preceding a competition.

Strategies must encompass physical preparation, mental preparation, nutrition and hydration, recovery interventions, team focus and cohesiveness, logistic and administrative considerations, and health.

3.7.1 Physical Preparation

The volume and intensity of physical training must be reduced to promote physical recuperation. Concurrently a reduction in training has a positive impact on an athlete’s state of mind, particularly after a block of intense training. The science lies in determining the rate and quantity

of reduction. Too much too early can lead to early peaking, weight gain and performance deterioration before an event. Too little risks residual fatigue and low motivation. The coach must determine the optimal reduction based on their athlete's personal requirements (type and importance of competition, other life demands etc). The type of physical training must also be considered. Normally physical exercise ought to focus on sharpening, technique and pure speed. Activities that promote active recovery (light exercise, stretching, massage) also need to be programmed into the schedule to ensure the body reaches an optimal level of performance.

3.7.2 Mental Preparation

As physical training is reduced mental preparation should increase. This includes dedicated time visualizing a best performance and mentally rehearsing the daily routine during competition.

3.7.3 Nutrition & Hydration

It is imperative that nutrition be given careful attention during a taper. Caloric intake must be kept in proportion to the reduction in physical training to avoid unwanted weight gain. The quality of nutrition is also critical to ensure constant energy levels and mental sharpness. A balanced diet of 40-50% carbohydrates, 20-30% protein and 20-30% fat works best to temper blood sugar levels. Carbo-loading or sustained high carbohydrate intake is more appropriate for high end endurance athletes. Hydration must be part of the nutritional regime particularly if competing in hot dry climatic conditions. Water should be the foundation with diluted electrolyte sports drinks used judiciously as a compliment. Drinking high volumes of sport drinks or ingesting protein powders will result in unnecessary weight gain, sluggishness and possibly reduced mental focus due to sugar lows. It is essential that coaches ensure good nutritive discipline in the final two weeks. Furthermore, coaches should consider the location of the competition to help guide their athletes on what foods will be available (particularly if competing internationally) and what alternative options might be considered or even if some food should be brought to maintain dietary familiarity. A game plan must also be formulated for competition day itself. Quality snacks and drinks ingested in small but frequent doses are best for keeping energy levels constant through the day.

3.7.4 Recovery

Certain interventions must be programmed into the taper to promote and accelerate recovery. These also allow training to extend closer to competition. Rest alone is insufficient. Massage, followed by a 20-30 min Epson salt bath, is probably one of the best regeneration instruments. Care however must be taken on the depth of massage. Deep tissue treatments are best left in the penultimate week. During the final week treatment should only be light to promote loose muscles and flexibility. Deep work will actually be counter-productive. Plan a last massage no closer than 48 hrs from competition day. Recovery nutrition is also important particularly if the taper included some short high intensity exercise.

3.7.5 Team Focus and Cohesiveness

If competing with a team then time should be programmed into the taper to plan out the competition day routine as well as the game plan and contingencies. It is essential that all team members buy into the plan and stick to it. Independent routines that deviate from team agreed to procedures will inevitably foment unwanted tension and even animosity. Sticking to a routine will also help to assess post-competition what worked and what didn't.

3.7.6 Logistics & Administration

Travel, accommodations, local transport, entry fees, registration, team rooms, personal gear should all be arranged in advance of the taper so every bit of energy and focus is directed towards competition day. This said, it would be prudent to reconfirm all arrangements for travel and at destination to avoid unwanted surprises and distractions on arrival. Another important aspect for teams is to have a plan for managing finances and specifically the payment of common bills (i.e. lift tickets, team room, camera man, coach etc). This should be kept simple. One person ought to be charged with finance handling and all known costs are paid to him/her up front. Using the IOU system among teammates becomes convoluted and guaranteed to result in miscounts and arguments. Quality rest is essential for high performance and therefore it may be best to invest in a good hotel with clean rooms, air conditioning and good aeration. Rooms with mini fridges or even kitchenettes are useful for storing snacks and drinks or even cooking familiar meals if needed. Program travel on rest days if the competition is far away to minimize impacting the quality of the last training sessions. Also consider time zone changes and recovery time required for ensuing jet lag.

3.7.7 Health

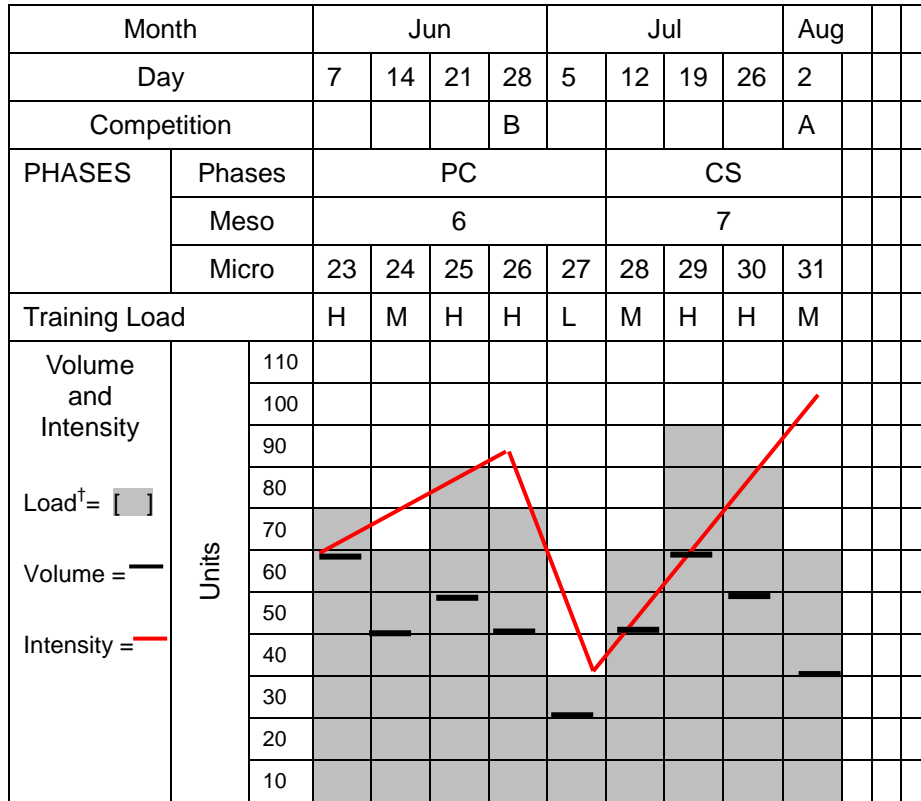
Being fit on competition day is key. Arriving healthy is just as important. A coach must ensure that the athlete(s) stamina remains uncompromised and must therefore carefully calibrate the volume, intensity and type of training sessions to be used in the last two weeks. If fatigue is evident then complete rest is best. It is always better to arrive at a competition slightly undertrained than even the slightest bit over trained. An athlete can always dig deep to pull out a last super performance, but once the tank is empty going in there is nothing more that can be pulled out. If travelling to an exotic destination ensure that any required inoculations have been obtained and athletes are aware of any prophylactic measures to mitigate health concerns. Vitamin supplementation is a personal choice and is best left to the athlete to consult with their health care practitioner. Nevertheless coaches should be in position to advise athletes on supplements that may be harmful or prohibited.

Example taper for a hypothetical 4-way RW away competition:

Mon	Tue	Wed	Thu	Fri	Sat	Sun
Rest 20 min stretch	A.M. 40' cardio hard effort P.M. 20 min visualization	A.M. 1 hr cardio mod effort P.M. 1 hr cardio hard effort (different than A.M.)	A.M. 40' easy cardio P.M. 20 min visualization	A.M. 40' cardio focus on speed	Jump – 6x simulated draw @ comp speed from comp alt.	Jump –8x complex combination s mod speed
Rest 20 min stretch	A.M. 40' cardio mod intensity P.M. 20 min visualization	A.M. 1 hr strength P.M. 20 min visualization	A.M. 1 hr cardio mod-high intensity P.M. 1 hr massage	Rest 20 min stretch 20 min visualization	Jump – 6x simulated draw @ comp speed from comp alt.	Jump –8x complex combination s mod speed
Rest/Travel 20 min stretch DZ registration, orientation, team room set up.	A.M. Jump – 6x comp speed from comp alt. P.M. 20 min stretch 20 min visualization	A.M. Cardio – 30-40' with 4-5 x 2' hard effort/1' recovery P.M. Wind tunnel – 30 min speed focus	A.M. Jump – 5 x easy draws, comp tempo P.M. 1 hr massage	Rest A.M. 20 min stretch 20 min visualization P.M. Comp registration and meeting	Comp	Comp

The Volume and Intensity Worksheet below can be used to describe in graphic form the ideal (discipline specific) relationship between these two variables in a lead-up to a competition. This can be used both for pre and post competition planning and analysis. Depending on the outcome the coach can redefine the shape of this relationship as necessary and use as a template for future competitions. Once sketched, the graph provides guidance to the shaping of each supporting microcycle. The example below illustrates a sample tapering and peaking periodization based on the example 4-way FS YTP:

Sample Volume and Intensity Worksheet



† Load is a measure of the combined effect of volume and intensity.

Example Microcycle Plan

Phase: SP

Mesocycle: 5

Starting: 10 May

Wk (Hrs)	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
19 (17)	10 Swim 1 hr Strength – 1 hr Maintain	11 Run 40min w 4x3min hard 2mri Visualization 20min	12 Swim – 40min w 2x(3x200m w 20sri) 1mri between sets Strength – 1 hr Maintain	13 Run 40min easy pace Visualization 20min	14 Bike 1 hr easy Visualization 20min	15 Jumps x 8	16 Jumps x 8
20 (19)	17 Swim 40min Strength – 1 hr Maintain	18 Run 40min w 4x3min hard 2mri Visualization 20 min	19 Rest	20	21	22	23
	Camp				Travel Visualization 20min	30min tunnel Jumps x 8 Stretching 30min	30min tunnel Jumps x 10 Stretching 30min
21 (21)	24	25	26	27 Strength – 1 hr Maintain Stretching 30min	28 Run 40min med pace Visualization 20min	29 Jumps x 8	30 Jumps x 8
	30min tunnel Jumps x 10 Stretching 30min	Jumps x 12 Stretching 30min	Travel				
22 (12)	31 Rest	1 Swim – 40min x 10 x 100m w 10sri Visualization 20min	2 Run – 40min hard Bike – 1 hr med pace	3 Rest	4 Run 40min med pace Visualization – 20min	5 Jumps x 5	6 Bike – 2 hrs easy

4. PERFORMANCE MONITORING

Once a training plan is put into practice the coach must obtain regular feedback from athletes to monitor progress. Specifically there is a need to confirm and validate the training regime. Is it too much or insufficient, too hard or too easy? Is performance where it ought to be? Is health being affected, is motivation declining? The coach must monitor every parameter in order to identify problems in a timely manner and immediately prescribe adjustments as necessary to ensure positive adaptations continue.

High performance athletes should log their training daily and report back to their coach on a set periodic basis. Some parameters to monitor and record are shown in the example below:

Training Log/Diary

	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Totals/Avg
Date	04/08/2011	05/08/2011	06/08/2011	07/08/2011	08/08/2011	09/08/2011	10/08/2011	
MHR	54	53	55	54	53	53	52	53.4
Weight	165	163	164	164	163	162	163	163.4
Sleep/Quality	8/good	9/v.good	7/v.bad	8/ok	7/ok	7/ok	9/great	7.8
Feeling (1-5)	4	4	2	3	3	4	5	3.5
Cardio	Run 40min		Run 35min		Swim 30min			1.7
Strength	Core 30min		Core 30min		Core 30min			1.5
Flexibility	20min		20min			20min	20min	1.4
Regeneration					Mssge' 1hr			1
Mental		Vis 20min	Vis 20min	Vis 20min		Arsl Ctl	Arsl Ctl	1.5
Jumps						8	6	14
Wind Tunnel		30min		30min				1
Exit brk time						5sec	4.5sec	4.75
Pts on hill						1	2	1.5
Block times		4sec		6sec		5sec	5.5sec	5sec
Trans time		3sec		3.5sec		3sec	3sec	3sec
Meet avg								
							Total hrs:	16hrs
Comments		Straight randoms felt crisp. Blocks rocked!	Bad dinner. Felt sick all day.	Not a good tunnel session. Low energy. Mentally not in the game.	Feeling better.	Really felt strong and aggressive.	Best blocks to date. Really smooth overall today.	(1day jumping = 4hrs training)

Totals	Cardio	Strength	Flexibility	Regeneration	Mental	Jumps	Wind Tunnel
Year to date	75.6hrs	45hrs	100hrs	15hrs	35hrs	230	8.5hrs

Recording subjective criteria such as mood, feeling and motivation are also important in assessing the athlete's mental state. More over it helps identify what particular training sessions or other life stressors are potentially adversely affecting athlete performance. This feedback is necessary for the coach to prescribe the proper adjustments to bring an athlete back on track or to repeat that which is producing the desired results.

It may be helpful to plot logged information on a graph to maximize interpretation of data. Graphing allows a coach to discern positive performance trends, recognize plateaus and signs of overtraining (see below) and gather patterns of adaptation over the long term that can help identify when an athlete is likely to peak.

Example Graphic of Logged Training Volume and Biometric Data

MHR	Wt	Hrs																
70	80	20																
68	79	19																
66	78	18																
64	77	17																
62	76	16																
60	75	15	X	X														
58	74	14			X	X	X											
56	73	13					X	X			X							
54	72	12						X	X	X		X	X					
52	71	11			X								XX	X				
50	70	10	X	X			X							X	XX	X		
48	69	9				X	X										X	
46	68	8							X	X		X						
44	67	7									X		X					
42	66	6																
40	65	5																
		4																
		3																
		2																
		1																
Week			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Date			4	11	18	25	2	9	16	23	30	7	14	21	28	4	11	18

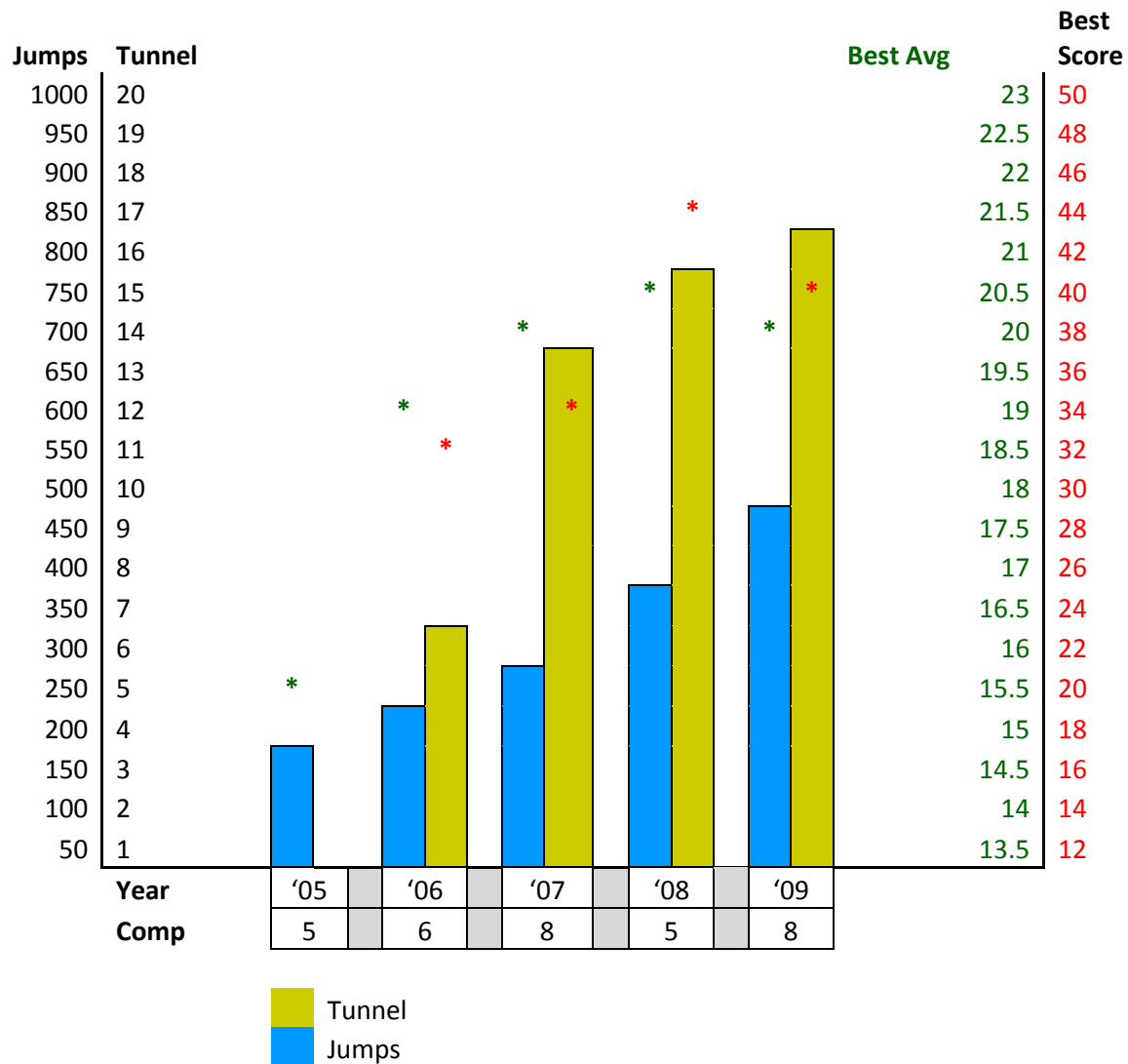
MHR=morning resting heart rate. Wt=morning body weight. Hrs=total training hours.

Regular consultation between athlete and coach is crucial. It need not be on a daily basis but regular communication should be encouraged. E-mail, phone, fax, text messaging can all be useful in exchanging info but nothing beats face-to-face contact. This of course may not always be possible as some may engage in distance coaching. Nonetheless, every effort should be made to have a periodic consultation in person to provide feedback on training/competition performance, to re-set goals if necessary and to adjust training to ensure continued progression.

Training logs are invaluable for competitive athletes. They not only provide immediate feedback to the coach on present performance, but also provide a critical database that enable coaches to discern performance patterns over the course of years. This is particularly important to ensure mistakes are not repeated, to recognize the key aspects and sequencing of training that have

worked well and discern patterns that identify when optimal performance has and will likely be reached. This enables coaches to carefully prescribe a sound periodization plan for their athletes in the future. The following is an example of a yearly performance log for a 4-way FS team that a coach can use to monitor big picture trends.

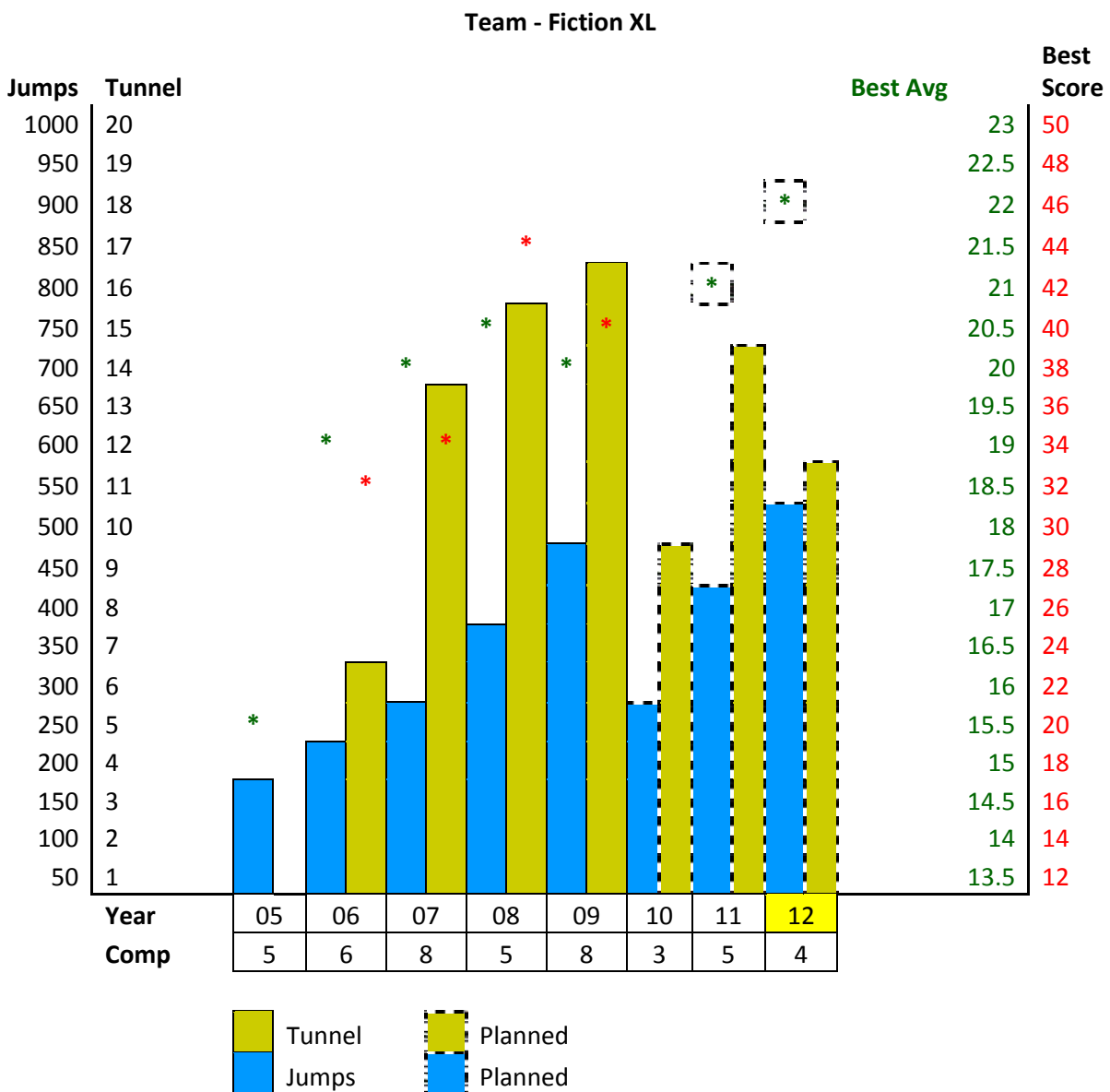
Team - Fiction XL



As importantly, training history may also be used to identify when a much needed break is required. Depending on the intensity of training that has been undertaken, signs of cumulative fatigue and performance degradation may appear that might require an entire year of reduced training to prevent burnout or irreparable physical damage. In the example above, Team Fiction XL ramped up their training and competitions in 2009 to get a boost in preparation for the World Championships in 2010. Their overall performance actually decreased from its peak the year before. Assuming equal team composition and dynamics, the graph may indicate to the coach that the volume of training was excessive, or the number of competitions too many, and that fatigue, both mental and physical, had reached a detrimental point when considering the hard training in previous years. This then should prompt the coach to review the periodization of training years to ensure continued progress in the longer term. In the above example, the coach

may decide to prescribe a lower volume training year in 2010 to promote regeneration and ensure Team Fiction is in optimal form for the World meet.

The following example illustrates how Team Fiction’s coach can use the same graph to plan the periodization of training over a number of years to ensure athletes are ready to peak for the big goal at some defined point, in this example winning the Excalibur Sword at the World Meet in 2012. After prescribing an easy year in 2010, the coach begins to ramp up again in 2011. With lessons learned from 2009 in mind, the coach then plans for a new combination of performance parameters in 2012 to ensure the team peaks and produces its best average ever. This then means perhaps reducing the number of tunnel hours in favour of more jumps (increasing specificity), keeping only 4 competitions on the schedule to minimize fatigue and training disruption and adding another 10 hrs of focused mental training with a sports psychologist [mental and physical training volume omitted for simplicity]. Note how the periodization of years is very similar to that of microcycles.



4.1 Overtraining

Overtraining is understood to mean a state of being when an athlete or team's performance becomes consistently sub-par and even shows signs of regression. There is a fine line between overloading with the intent of improving performance and over extending beyond the athletes' ability to adapt to new training loads. The coach must consistently monitor feedback for indications of overtraining and be sensitive to the slightest cues. At the first indication, the key action is to drastically reduce training volume and intensity and in extreme cases stop training altogether until such time as physiological and mental health has been regained. The return to normal training must be gradual with an incremental increase in volume preceding a resumption in the intensity of training. The periodization plan must be adjusted accordingly. Some key indicators of overtraining are listed below.

- ❖ Increased morning heart rate.
- ❖ Lethargic, increased sense of fatigue.
- ❖ Mood and attitude.
- ❖ Drop in motivation and vigor.
- ❖ Tension, depression.
- ❖ Restless sleep.
- ❖ Frequent illness and/or inability to recover quickly from a mild cold.
- ❖ Reduced performance.
- ❖ Decreased coordination.
- ❖ Higher perceived exertion for routine tasks.
- ❖ Inability to focus, reduced memory, increased "brain-locks".

Monitoring a training plan will help a coach:

- ❖ Assess if the training prescription (periodization) is having its intended effect;
- ❖ Evaluate if the training regime fits with the athletes life demands;
- ❖ Collect data on the sequencing of training that works (or that does not quite);
- ❖ Reassess goals more realistically as an athlete progresses through the plan;
- ❖ Identify when peak performances are reached or manifested; and
- ❖ Identify when recovery interventions are needed.

Some tools that may assist a coach to track a performance plan include:

- ❖ Web site.
- ❖ Athlete journal.
- ❖ Excel spread sheet.

Training-to-Competition Ratio Worksheet

Phase	# of Weeks	# of Comps Days	Tech / Tact	Physical	Other	Training-to-Competition Ratio %
			Days	Days	Days	
General Preparation Phase						
Specific Preparation Phase						
Pre-Competition Phase						
Competition Specific						
Recovery and Regeneration						
General Conditioning.						
Overall						

Yearly Planner Assessment Worksheet

Phase	# of Weeks	# of Comps	Tact/Tech Training	Physical Training	Other Training	Training-to-Competition Ratio
General Preparation Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
Specific Preparation Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
Pre-Competition Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
Competition Specialization Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
Rest and Recovery Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
General Conditioning Phase	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal
Overall	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal	<input type="checkbox"/> Too Low <input type="checkbox"/> Too High <input type="checkbox"/> Optimal

5. REFERENCE MATERIAL

5.1 Performance Plans

Examples for:

- ❖ 4-Way Formation Skydiving
- ❖ Canopy Formation
- ❖ Canopy Piloting
- ❖ Style and Accuracy
- ❖ Vertical Formation Skydiving

Performance Plan: Example 4-Way FS

Name of Athlete/Team: Performance XL

Level: T2C

Name of Coach: T.J. Wiseman

Date: 20XX

Goals: 1) Win Canadian Nationals 2) Place top 5 at World Cup

1	Dates	Months	Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec																																		
2		Week Date	4	11	18	25	1	8	15	22	1	8	15	22	29	5	12	19	26	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	6	13	20	27																											
3	Competitions	Type					L					L		T												P						N													W													T																							
4		Importance					C					C		C													B						A													A													B																						
5	Camps	Date					6-14					13-21																	23-27																	23-28																																			
6	Periods/ Phases	Periods	Preparation														Competition														Transition																																																		
7		Phases	GP							SP							PC				CS				SP	PC	CS				RR	GC																																																	
8	Macrocycles	1																																																																															
9	Mesocycles	1						2						3						4						5						6						7						8						9						10						11						12						13							
10	Microcycles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52																												
11	Goals Objectives	Skill - Technical	Rev randoms + blocks						Optimize block mechanics						Refine slot switching						Introduce comp alt.						Maintain						Reassess						Refine random + block set-ups						Diversify						Indiv flying skill																														
12		Skill - Tactical	Develop team pace + anticipation, refine keying procedures														Develop comp speed, spnt drills														Sim comp draws						Implement strat						Reassess						Refine random + block transitions, grip mgmt																																
13		Psychology	Develop visualization						Consolidate relaxn/visualization						Develop distraction control (dc)						Develop arousal control (ac)												Refine (dc) + (ac)												Perf' rev						Set goals, relax																														
14		Stamina -Aerobic	Develop														Boost						Maintain												Boost						Maintain												Recover						Initiate																						
15		Stamina -Anaerobic															Initiate						Develop						Boost						Maintain						Boost						Maintain												Recover																						
16		Speed (limb)	Develop						Boost						Maximize						Maintain												Boost						Maintain																																										
17		Speed Endurance	Initiate						Develop						Boost						Maximize						Maintain						Maintain												Recover						Adapt																														
18		Strength Endurance	Develop						Boost						Maximize						Maintain																								Recover						Initiate																														
19		Suppleness	Develop														Maintain																								Regenerate						Initiate routine																																		
20		Nutrition	Test fluid replacement drinks + power snacks						Increase CHO intake						Comp diet routine												Comp diet routine																																																						
21		Equipment	Receive						Test																		Res repack																								Res repack																														
22		Environment																									Prepare						Acclimatize																																																
23	Test, Monitor, Evaluate	Date/Type																																																																															
24	Training Load	Volume*	M						H						H						H						H						M						L						L	H						M-L						L	L	L	L																				
25		Intensity*	L						L						L						M						M-H						H						H - L						L	M-H						H-L						L	M - L	L	L																				
26	% Emphasis	Physical	55						55						55						45						45						40						30						75	45						30						80						30						90						60					
27		Psychological	10						10						10						20						20						25						30						15	20						30						10						30						10						5					
28		Technical	30						25						25						20						15						15						15						10	15						15						10						15						0						30					
29	Tactical	5						10						10						15						20						20						25						0	20						25						0						25						0						5						
30	Total Hours	Ave. Hours/Week	12	14	10	13	15	11	14	15	16	17	12	16	18	12	16	18	20	14	17	19	21	12	20	21	12	21	22	14	18	12	10	8	16	18	20	12	14	16	12	8	6	8	12	12	8	6	6	6	8	8	10	10																											

Competition type: L = league (NSL), T = tunnel, P = provincial, N = nationals, W = world (championship, cup)

Performance Plan: Example CF

Name of Athlete: _____ Level: _____ Name of Coach: _____ Date: _____

Goals: _____

1	Dates	Months																																																				
2		Week Date																																																				
3	Competitions	Type																																																				
4		Importance																																																				
5	Camps	Date/Type																																																				
6	Periods/ Phases	Periods																																																				
7		Phases																																																				
8		Macrocycles																																																				
9		Mesocycles																																																				
10		Microcycles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
11	Goals	Technical																																																				
12		Tactical																																																				
13		Psychology																																																				
14		Aerobic																																																				
15		Anaerobic																																																				
16		Speed																																																				
17		Strength																																																				
18		Power																																																				
19		Flexibility																																																				
20		Nutrition																																																				
21		Equipment																																																				
22	Environment																																																					
23	Test, Monitor, Evaluate	Date/Type																																																				
24	Training Load	Volume*																																																				
25		Intensity*																																																				
26	% Emphasis	Physical																																																				
27		Psychological																																																				
28		Techniques																																																				
29		Tactics/Strategies																																																				
30	Total Hours	Ave. Hours/Week																																																				

Performance Plan: Example Canopy Piloting

Name of Athlete: _____ Level: _____ Name of Coach: _____ Date: _____

Goals: _____

1	Dates	Months																																																				
2		Week Date																																																				
3	Competitions	Type																																																				
4		Importance																																																				
5	Camps	Date/Type																																																				
6	Periods/ Phases	Periods																																																				
7		Phases																																																				
8		Macrocycles																																																				
9		Mesocycles																																																				
10		Microcycles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
11	Goals	Technical																																																				
12		Tactical																																																				
13		Psychology																																																				
14		Aerobic																																																				
15		Anaerobic																																																				
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17		Strength																																																				
18		Power																																																				
19		Flexibility																																																				
20		Nutrition																																																				
21		Equipment																																																				
22		Environment																																																				
23	Test, Monitor, Evaluate	Date/Type																																																				
24	Training Load	Volume*																																																				
25		Intensity*																																																				
26	% Emphasis	Physical																																																				
27		Psychological																																																				
28		Techniques																																																				
29		Tactics/Strategies																																																				
30	Total Hours	Ave. Hours/Week																																																				

Performance Plan: Style & Accuracy

Name of Athlete: _____ Level: _____ Name of Coach: _____ Date: _____

Goals: _____

1	Dates	Months																																																				
2		Week Date																																																				
3	Competitions	Type																																																				
4		Importance																																																				
5	Camps	Date/Type																																																				
6	Periods/ Phases	Periods																																																				
7		Phases																																																				
8		Macrocycles																																																				
9		Mesocycles																																																				
10		Microcycles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
11	Goals	Technical																																																				
12		Tactical																																																				
13		Psychology																																																				
14		Aerobic																																																				
15		Anaerobic																																																				
16		Speed																																																				
17		Strength																																																				
18		Power																																																				
19		Flexibility																																																				
20		Nutrition																																																				
21		Equipment																																																				
22		Environment																																																				
23	Test, Monitor, Evaluate	Date/Type																																																				
24	Training Load	Volume*																																																				
25		Intensity*																																																				
26	% Emphasis	Physical																																																				
27		Psychological																																																				
28		Techniques																																																				
29		Tactics/Strategies																																																				
30	Total Hours	Ave. Hours/Week																																																				

Microcycle Planner Worksheet

	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
Morning														
	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
Afternoon														
	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
Evening														
	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
School/ Work	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
Travel	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
Other _____ _____	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity	Volume	Intensity
Total/ Avg	Total Volume	Average Intensity	Total Volume	Average Intensity	Total Volume	Average Intensity	Total Volume	Average Intensity	Total Volume	Average Intensity	Total Volume	Average Intensity	Total Volume	Average Intensity

YTP

1	Dates	Months																																																							
2		Week Date																																																							
3	Competitions	Type																																																							
4		Importance																																																							
5	Camps	Date/Type																																																							
6	Periods/ Phases	Periods																																																							
7		Phases																																																							
8		Macrocycles																																																							
9		Mesocycles																																																							
10		Microcycles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52			
11	Goals	Technical																																																							
12		Tactical																																																							
13		Psychology																																																							
14		Aerobic																																																							
15		Anaerobic																																																							
16		Speed																																																							
17		Strength																																																							
18		Power																																																							
19		Flexibility																																																							
20		Nutrition																																																							
21	Equipment																																																								
22	Environment																																																								
23	Test, Monitor, Evaluate	Date/Type																																																							
24	Training Load	Volume*																																																							
25		Intensity*																																																							
26	% Emphasis	Physical																																																							
27		Psychological																																																							
28		Techniques																																																							
29		Tactics/Strategies																																																							
30	Total Hours	Ave. Hours/Week																																																							

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