



**National
Coaching
Certification
Program**

Coach 2 REFERENCE MANUAL

CSPA Role: Coach 2

NCCP Context: Instruction Intermediate

Sections:

- A. Role of the Coach 2**
- B. Planning a Jump**
- C. Conduct a Safe Skydive**
- D. Making Ethical Decisions**

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Coach 2 Reference Manual

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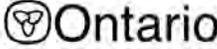
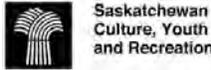
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The National Coaching Certification Program is a collaborative program of the Government of Canada, provincial/territorial governments, national/provincial/territorial sport organizations, and the Coaching Association of Canada.

Partners in Coach Education

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Learn to listen, especially to the athletes –
they are excellent teachers.

Help each athlete develop all of their capacities:
physical, mental/emotional, and social.

Take a stand against doping and cheating in sport.

Thirst for knowledge
attend coaching courses, get certified, stay up to date.

Brought to you by
the Coaching Association of Canada www.coach.ca



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Dear Coach,

The Coaching Association of Canada is pleased to offer you an interactive website that enables you to check your accreditation online. Go to www.coach.ca where you can:

- track your progress through the NCCP;
- update your coaching profile;
- print out copies of your coaching card or a transcript of your coaching courses;
- visit the Coaching Tips and Tools section;
- and so much more!



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National
Coaching
Certification
Program





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Program Overview

The National Coaching Certification Program (NCCP) is a coach training and certification program for all coaches in more than 60 sports. The NCCP is moving towards a competency-based approach where coaches are:

- trained in NCCP outcomes relevant to the participants that they are coaching
- evaluated by demonstrating coaching outcomes to a specified standard

The core competencies of coaching are valuing, interacting, leading, problem-solving, and critical thinking. These competencies will be woven throughout all NCCP training and evaluation activities.

Who am I coaching?

The new structure of the NCCP is based on the participants' needs, which are identified within streams and contexts.

Community Sport stream

Initiation CSp-Init
Ongoing participation CSp-Ong

Initiation context

Participants of all ages are encouraged to participate in the sport and introduced to sport basics in a fun, safe, and self-esteem building environment regardless of their ability.

Ongoing participation context

Participants of all ages are encouraged to continue participating in the sport for fun, fitness, skill development, and social interaction.

Competition stream

Introduction Comp-Int
Development Comp-Dev
High performance Comp-HP

Introduction context

Children and/or adolescents are taught basic sport skills and athletic abilities in a fun and safe environment and are typically prepared for local and/or regional level competitions.

Development context

Adolescents and young adults are coached to refine basic sport skills, to develop more advanced skills and tactics, and are generally prepared for performance at provincial and/or national level competitions.

High performance context

Young adults are coached to refine advanced skills and tactics and are typically prepared for performance at national and international level competitions.

Instruction stream

Beginners Inst-Beg
Intermediate performers Inst-Imd
Advanced performers Inst-Adv

Beginners context

Participants of all ages, with little or no sport experience, are taught basic sport skills.

Intermediate performers context

Participants, who already have some experience and proficiency in the sport, are taught to refine basic skills and introduced to more complex techniques.

Advanced performers context

Participants who are experienced and already proficient in the sport are taught to refine advanced skills and techniques.

What do I need to be able to do?

Within each context, coaching outcomes are defined by the National Sport Organizations (NSOs) that clearly outline what you must be able to do in order to meet the needs of participants in that context. Contact your NSO to find out which context is relevant to you and what you need to do to achieve accreditation.

Coaching Outcomes

- Make Ethical Decisions
- Provide Support to Athletes in Training
- Plan a Practice
- Support the Competitive Experience
- Analyze Performance
- Design a Sport Program
- Manage a Program
- Sport-specific Outcomes (as determined by the sport)

How do I achieve accreditation?

Coaches can receive three types of accreditation in any of the above contexts:

✓ In Training

Coach needs to be trained in additional outcomes.

✓ Trained

Coach has completed training in designated outcomes.

✓ Certified

Coach has been evaluated in designated outcomes and has acknowledged the NCCP Code of Conduct.



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For more information go to www.coach.ca

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.



Foreword

THE CANADIAN SPORT PARACHUTING ASSOCIATION (CSPA) is pleased to provide this Coach 2 Reference Manual® as part of the overall development for Sport Parachuting in Canada.

This manual is based on experience from programs across Canada. The content and format of the manual and the coach's clinic is to ensure that the clinic participant receives the most effective learning experience possible. Considerable financial and human resources were expended to refine this program to meet the needs of the skydiving community.

The Coach 2 Reference Manual® is designed to assist coaches to learn and teach recreational techniques of skydiving. The material in this manual is applicable to both individuals and teams. This manual contains advanced teaching techniques and progressions; it is therefore useful for the beginning and experienced skydiving coach.

The C.S.P.A. Coaching Certification Program is one of the most significant developments in sport parachuting. We sincerely hope that you will take full advantage of the benefits offered through both this manual and skydiving coaching certification courses.

Disclaimer

The CANADIAN SPORT PARACHUTING ASSOCIATION (CSPA) and its personnel wish their readers to note that this publication has been prepared for general information only. The publication of the information contained herein is not intended as a representation or warranty that this information has been approved or tested by the CSPA and is suitable for any general or particular use by its readers. Readers are advised that the information published herein should not be relied upon unless competent advice has been obtained with respect to its suitability for a particular application.

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Acquisition of the skills necessary for the safe performance of sport parachuting activities is not a process where self-instruction is either recommended or considered satisfactory. The same holds true for a skydiving coach. CSPA recommends that progression in skydiving should be mentored by a CSPA certified coach and that individuals interested in coaching should take a CSPA coach course.

Acknowledgements

The CANADIAN SPORT PARACHUTING ASSOCIATION would like to thank several people for their contributions to the development of this latest edition of the Coach 2 Reference Manual®.

The 2007 development of the Coach 2 Reference Manual® and the development of the Coach 2 (Instruction - Intermediate) program were assisted by funding from CSPA and the Coaching Association of Canada (CAC). The manual was compiled by Tony Mercer and Scott McEown with assistance from Tim Grech and Tom Pfeifer, with contributions from John Moore and Diane Oligny (CAC), and reviews provided by Nick Stetzenko, Rob Hutchinson, Derek Orr, Mario Prevost and Andreas Tize.

The 2009 - 2010 updates were provided by Scott McEown. Updated Skills Grid re-designed by Sharon Winters, Nesta Chapman and Scott McEown.



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Coach 2 Training & Certification Pathway

Prerequisite	Coach 2 Workshop	Portfolio	Coach 2 Evaluation
Coach 1 Certified			*See website for details
3 Day Workshop	3 Day Workshop		www.cspa.ca
1. Planning and designing a jump for a novice skydiver	Trained Status CAC Database	25 Documented coaching contacts	Certified Status CAC Database
2. Conduct a safe and enjoyable skydive	1. Plan a practice	Conduct 1 Evaluated Coach Jump	
3. Analyze performance	2. Provide support to novice skydivers in training		
4. Making an ethical Decision	3. Make Ethical Decisions		
	4. Analyze higher level performance		



Modules for Coach 2

A. Role of the Coach 2

1. **Course Introduction**
 - 1.1. Introduction and Overview
 - 1.2. CSPA and CAC Coaching Model
 - 1.3. Role of the Coach 2

B. Panning a Jump

2. **Coaching Techniques**
 - 2.1. Goal Setting and Self-directed Skill Development
 - 2.2. The PAF Plan
 - 2.3. Advanced Skill Teaching
 - 2.4. Skill Analysis and the Principles of Movement
 - 2.5. Mental Training
3. **Sport Specific Coaching**
 - 3.1. Jump Planning
 - 3.2. Coaching the CoP Requirements
 - 3.3. Coaching Safe High Performance Landings
 - 3.4. The Coach 2 and CSPA's Endorsements
4. **Safety and Unusual Situations**
 - 4.1. Safety in Skydiving
 - 4.2. Emergency Action Plan
 - 4.3. Risk Management
5. **Technical Information**
 - 5.1. Model for Group Exits
 - 5.2. Box Position
 - 5.3. Model for Turn Types
 - 5.4. Model for Group Freefall
 - 5.5. Maintenance of Fall Rate
 - 5.6. Model for Accuracy Approach through Angle Control

C. Conduct a Safe Skydive

6. **Jump Phase and Evaluations**
 - 6.1. 1:1 Coach Jumps– 4 Jumps
 - 6.2. Skill Analysis of Jumps for CoP Requirements – Activity
 - 6.3. Accuracy Skills – All Jumps

D. Making Ethical Decisions

7. 7.1 Making Ethical Decisions

Course Conclusion

8. **Course Conclusion**
 - 8.1. Course Review and Reflection
 - 8.2. Interviews





Coach 2 - Schedule

Day 1	Module	Day 2	Module	Day 3	Module
9:00 – 9:30	1.1 Introduction and Overview (15 min) 1.2 CAC and CSPA Model [pre-course] (15 min)	8:30 – 9:30	2.5 Mental Training (60 min) [Assign Teaching Tasks for Coaching Jumps number 2 and 3 - Preparation for PAF]	8:45 – 9:00	Review of Day 2 (15 min)
9:30 – 10:30	1.3 Role of the Coach 2 (30 min) Pre – A CoP Pre – B CoP [pre-course]	9:30 – 9:45	Warm-up (15 min)	9:00– 9:45	7.1 Making Ethical Decisions (45 min)
10:30 – 10:45	Break (15 min)	9:45 – ~12:15	6.1 Coaching Jump #2 (1 hour / candidate) [Includes Lunch]	9:45 – 10:45	4.1 Safety in Skydiving (30 min) Leadership in Unusual Situations Safety for Small Group FS Equipment 4.2 Emergency Action Plan (15 min) 4.3 Risk Management (15 min)
10:45 – 11:30	2.1 Goal Setting and Self-directed Skill Development (45 min) Review of Coach 1 Material Seasonal Planning	12:15 – 12:45	3.2 Coaching the CoP Requirements (30 min) (<i>analysis later</i>) Manoeuvre, Style, Accuracy	10:45 – ~2:00	6.1 Coaching Jump #4 (1 hour / candidate) [Includes Lunch]
11:30 – 1:00	2.2 The PAF Plan (30 min) 2.3 Advanced Skill Teaching (30 min) Review of Coach 1 Material Chaining and Shaping 2.4 Skill Analysis and the Principles of Movement (30 min)	12:45 – 1:15	3.3 Coaching Safe High Performance Landings (30 min)	2:00 – 3:00	3.2 Skill Analysis of Jumps for CoP Requirements (60 min). Judging the: <ul style="list-style-type: none"> • Style • Manoeuvre • Free fly / CF / FS
1:00 – 2:00	3.1 Jump Planning (60 min) 1 on 1 - Recreational Skills Grid / SOLO Progression / FS Progression Group - Dirt diving / Load Organizing	1:15 – 1:30	Break (15 min)	3:00 – 3:15	Break (15 min)
2:00 – ?	6.1 Coaching Jump # 1 (1 hour / candidate) [Includes Lunch, Warm-up and Stretching]	1:30 – 2:30	3.4 The Coach 2 and CSPA's Endorsements (60 min) Sport Canopy EPR EJR Packing 2-way FS Group FS	3:15 – 4:15	Technical Information review (60 min) 5.1 Model for Group Exits 5.2 Box Position 5.3 Model for Turn Types 5.4 Model for Group Freefall 5.5 Maintenance of Fall Rate 5.6 Model for Accuracy Approach through Angle Control
		2:30 – ?	6.1 Coaching Jump #3 (1 hour / candidate)	4:15 – 5:00	8.1 Course Review and Reflection (15 min) 8.2 Interviews (60 min)





Section A) Role of the Coach 2 (Instruction Intermediate)

To become a good jumper today you do not have to do hundreds of jumps and spend thousands of dollars or search out some skydiving guru to tell you the secret stuff. The proper techniques are easy to learn. Moreover, here in Canada, we have the resources in people and knowledge to show Canadians not only how to become good jumpers but also to be competitive on an international level. That is to say we have the right stuff.

CSPA through the Coaching Working Committee and in association with the Coaching Association of Canada have produced a developmental program in which the Coach 2 (Instruction Intermediate) is the second level. We believe the system provides a comprehensive training system to any skydiver at any level who wishes to improve his or her abilities under canopy or in the air.

Participants with a disability are fully integrated into the sport of parachuting. For information on how to teach a participant with a disability refer to <http://coach.ca/eng/products/>

Module 1.1 – Introduction and Overview

THE CSPA COACH 2 RATING:

a) Introduction

During the three days of the Coach 2 course you will learn a tremendous amount of information and develop skills that will allow you to continue on the coaching pathway and also to improve your own skydiving abilities. The following section outlines the prerequisites required to attend the course, evaluations, privileges, practical requirements, and process to become certified as a Coach 2 (Instruction Intermediate).

I) Prerequisites:

- C-CoP
- Coach 1 **CERTIFIED [Certified Card must be IN HAND prior to taking this course]**
- Current CSPA membership
- Age of majority
- Participation in Competitions, Regional Meets or Provincial Championships (Recommended)

II) Evaluations on the course:

- Criteria to pass this course / specific evaluations: shown on the **Schedule** (evaluations in **bold**) and in the **Candidate File**.
- Personal skydiving level
 - Canopy Control and Accuracy (line and angle) on every jump (80% within 10m)
 - Coaching Ability – through the coached jumps
 - Supervise 4 one-on-one (1:1) coached jumps – partial and complete jumps
 - Perform goal setting and use skill analysis on the jumps
 - Use skill analysis to analyze a video of a manoeuvre series
 - Demonstrate a high level of technical knowledge throughout the course
- Teamwork, motivation, attitude, general behaviour and cooperation
- Packing
- End Result: You will be given a portfolio. If any make-up(s) is required, you must send in the portfolio as soon as the make-up(s) tasks are complete and signed by the



required person. You are not permitted to act or sign as a Coach 2 until you have sent in the signed and completed make-up(s).

III) How to become certified: The Coach 2 practical requirement to produce a complete portfolio: Within **one (1) year** of the completion of this clinic – see note below:

- Perform 50 skydives
- Complete 25 - 1:1 coaching jumps with a Solo or A-CoP holder, to include one evaluation jump to be observed and debriefed by a Certified Coach 2
- Complete the Coach 2 Portfolio document and **mail the original** (keep a photocopy for your records) and a **photocopy of your CSPA membership card** and **highest CoP** to the Coaching Rating Processor via CSPA's office. See instructions within the Coach 2 Portfolio on Page 11.

Note: If the practical requirements are not completed after one (1) year, you **must** file a written request for a rating extension, detailing why the practical was not completed. Include with the request:

- The Coach 2 portfolio showing what has been completed
- Photocopy of your current, in-date CSPA membership card.
- A note of explanation

Failure to file the request or complete the requirements by the extension date will result in removal of your name from the Coach 2 registry and you will have to retake the course if you want the rating in the future. Extensions are not automatically granted. There must be a valid reason for not completing within the 1-year timeframe.

V) Privileges of the Coach 2:

- Supervise
 - 1:1 FS with Solo and A-CoP holders progression
 - programs for recreational participants from the Skills Grid
 - the development of Coach 1's
- Assist
 - Instructors and Coaches
- Qualify For:
 - IPFF Instructor (with C2 Certified AND SSI or JM Certified and a minimum of 600 jumps and minimum 6 hours of freefall time)
 - SSE (along with other requirements)
 - Coach 2DS (in development)
- Verify:
 - Requirements for A and B-CoP
 - Endorsements
 - 2-way FS (A)
 - Group FS (B)
 - Sport Canopy Endorsement (A and B) (wing loading 1.0+)
 - Main Packing Endorsement (A)
 - Emergency Procedures Review A, B, and C
 - EJR; verify the 10 pre-planned stand-up accuracy landings within 10m diameter (5m radius).





A Coach 2 with other skills, such as CFS and free fly, canopy piloting, 4way FS, CF, accuracy or style could use the coaching principles learned in this course to teach those skills.

VI) Maintenance of Certification:

A currency of at least 125 Coaching contacts within 5 years is required to maintain certified status.

Currency requirements to be announced

VII) Horizontal Development Opportunities

New information and updates are communicated through a CWC Newsletter, CanPara Magazine and the CSPA website. Coaches and Learning Facilitators are strongly encouraged to participate in the following events:

- Bi-annual Skydiving Symposium hosted by the PIA (Parachute Industry Association)
- Sport Leadership Conference
- Any NCCP related workshop “Multi Sport or any Sport Specific Workshops”
- CWC Open houses and workshops
- Any other CSPA Instructional Course
- Any manufactures courses
- Any USPA Instructor/Coach Workshops
- Training & Coaching from advanced athletes/competitors in their skydiving discipline
- Learning Facilitator Conference

b) Overview of the Coach 2 Course:

The clinic is normally held over three days and a typical schedule is shown in the Coach 2 Schedule, [Page12](#) of this manual. Considerable flexibility has been built into the course to take into account the demands of the drop zone and the dictates of the weather.

In order to gain the maximum benefits from the program, you must attend the entire program, arriving on time for each session. You must bring your logbook, CoP booklet, and CSPA membership card to the course. You will also need the most recent copies of this Coach 2 Reference Manual and Coach 2 Workbook, PIM 1, PIM 2A, PIM 2B, PIM 2C, pens and paper, and your skydiving equipment, packed and in date.

Drop zone Activities:

Below you will find details of the drop zone activities that are evaluated. In addition, the key points for evaluation are identified for each skill. You may wish to prepare for the evaluations by practicing the skills on your own in the time available prior to the clinic. In fact, practicing your skills prior to the course is highly recommended.

Note: In the course the Course Facilitator or Evaluator will role-play a typical novice.

Teaching Ability

You will be assigned specific tasks from the skydiving skills grid that you will have to teach another candidate. The evaluation will assess your ability to understand and use the PAF (Presentation – Application – Feedback) process. It will be necessary to provide a written lesson outline for each presentation.



Freefall Skills

The focus of the Coach 2 course will be to assess your freefall skills in evaluating 2-way Endorsement and the Group Endorsement. You will act as a solid, fixed base to provide a target for a typical novice, maintain an appropriate level and proximity and deal with unusual situations.

Coaching Ability

This is an evaluation of your ability to work with a novice during a typical skydive. During the four (4) jumps in the course you will gradually take on the full role of the Coach 2. On the final two jumps, you will coach a novice through the whole jump and all aspects of the coach's role will be evaluated including preparation, in-flight, freefall, canopy control, and feedback (debrief).

Canopy Control

You will be asked to make a controlled approach to the target area on each of your jumps. During the approach, you will 1) demonstrate a proper body position under canopy; 2) maintain your line and angle control of approach to the target; 3) Demonstrate accuracy within 10m of the target centre.





Module 1.2 - CSPA and CAC Coaching Model

What is the National Coaching Certification Program?

The National Coaching Certification Program (NCCP) is a coach training and certification program offered in over 65 different sports in Canada. The principal objective of this program is to develop the abilities of coaches working with athletes at all levels, from community to high performance sport.

More than 1 million coaches have taken part in training, education, and certification activities offered by the NCCP since its inception in 1974. Each year more than 50,000 coaches take an NCCP workshop. This has enabled them to acquire coaching knowledge and skills aimed at:

- Providing participants with a positive sport experience
- Meeting the needs of participants
- Providing participants with opportunities to achieve their potential in and through sport

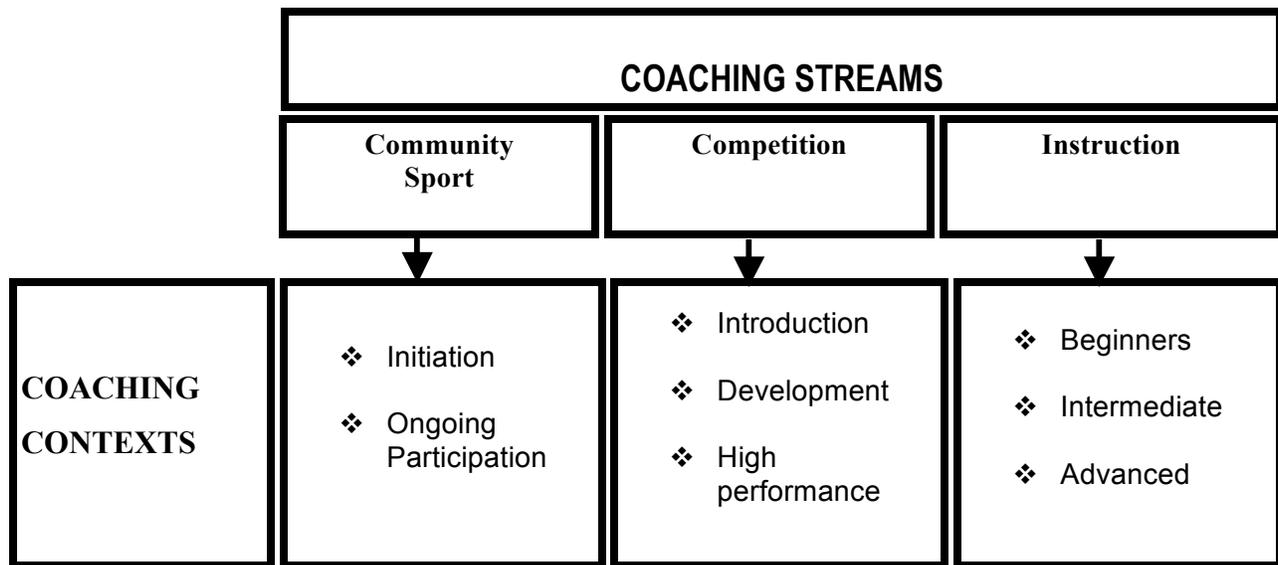
The National Coaching Certification Program is a collaborative program of the government of Canada, provincial/territorial governments, national/ provincial/territorial sport federations, and the Coaching Association of Canada.

The “New” NCCP

The new structure of the NCCP was designed to take into account (1) the different types of coaches that contribute to the Canadian sport system and (2) the environment or context in which they coach. The new structure of the NCCP is therefore based on *Coaching Streams* and on specific *Coaching Contexts* within each *Stream*. Three distinct *Coaching Streams* have been identified: Community Sport, Competition, and Instruction.

Each national sport federation has the responsibility to determine the coaching streams and contexts that apply to its coach development system.





Characteristics of the Different Coaching Streams

Each type of coach has an important role to play in the Canadian sport system, and contributes in a unique way to the development of participants/athletes under the coach's care. It is sometimes difficult to establish a clear distinction between the three coaching streams; in effect, there is an overlap between some of their roles and responsibilities. However, their coaching environments also differ in some important ways, especially with regard to the needs of the participants/athletes with whom they work.

The general characteristics of the coaching streams and contexts of the new NCCP structure are briefly described in the following pages.

Community Sport Stream

As a general rule, Community Sport coaches have the following characteristics:

- Many work with young children in programs that last only a few weeks.
- Many are parents who become involved in coaching because their children participate in sport.
- Many first-time community coaches have little experience in the sport they Coach.
- Regardless of their experience, community coaches work in recreational or low-level competitive programs; although they may teach some basic sport skills, results in competition or performance are not the primary objectives of the programs in which they coach.
- They seek to foster the love of sport within a fun and safe environment; they create a dynamic environment in which participants interact socially with each other through sport.
- They promote participation and encourage participants regardless of ability level; they create conditions that make sport a positive experience for all, and that promote the self-esteem of the participants.
- Traditional competitive rules may be adapted to better suit the needs and/or the interest of participants, and to ensure the sport experience is enjoyable.

Competition Stream





As a general rule, the characteristics of coaches working in the Competition stream are the following:

- They work in programs where athletes seek to achieve a performance.
- They provide support to athletes in areas such as technical, physical, tactical and mental preparation.
- They provide support to athletes in both training and competitive conditions.
- They work towards improving the athletes' competitive abilities.
- They work to develop athletes over the long term.
- They use sport as a means of developing the individual in a holistic fashion.
- They teach values through sport.
- They help athletes become as good they can be.
- They create conditions whereby sport is a positive experience and the athletes' self-esteem is enhanced.

Three contexts of certification will apply for this stream, each reflecting key objectives pertaining to the athlete's long-term development and proficiency level.

Competition – Introduction: These will teach basic skills and tactics, and prepare athletes for low-level competitions. Athletes train on a seasonal basis to improve their general fitness level. Fun is an important part of the athletes' sport experience. Specialization is not a priority at this stage, and sport provides an opportunity to teach values and develop social skills. *Example: Volunteer club coach; coach of athletes who begin competition; coach of athletes who train and compete on a seasonal basis.*

Competition - Development: Most of these coaches work with adolescents and young adults. Developmental coaches help athletes refine basic skills and tactics, teach more advanced skills and tactics, and prepare them for provincial or national level competitions. Athletes train several times a week on a seasonal or annual basis to improve performance. Although having a good time remains an important part of the athletes' sport experience, the outcome of competitions is of greater importance, as athletes may have to meet pre-determined performance standards. Event/discipline specialization and fitness also become important at this stage. Sport at this level provides an opportunity to teach values and ethics, and refine social skills. *Example: Coach of a regional or provincial team that trains year round; Canada Games coach; college or university coach.*

Competition – High Performance: As a general rule, these coaches work with athletes between the ages of 20 – 35. They help athletes refine advanced sport skills and tactics, and prepare them for national or international level competitions. Athletes perform a high volume of specialized training on an annual basis in order to improve or maintain performance. Although having a good time remains an important part of the athletes' sport experience, the outcome of competitions becomes very important. The athletes endeavour to reach their full potential and to attain world-class performance levels. At this level, sport provides an opportunity to implement values, and demonstrate social skills and ethics. *Example: Coach of athletes who compete internationally; coach of professional athletes; national team coach.*

Instruction Stream



As a general rule, the characteristics of coaches working in the area of Instruction are the following:

- Their primary responsibility is to teach sport-specific skills.
- They intervene with participants of various proficiency levels.
- They intervene primarily in non-competitive programs.

Three contexts of certification will apply for this stream, based on the proficiency level of the participants.

Instruction – Beginners: This type of instructor teaches basic skills to individuals with very little or no experience in the sport or the activity. He/she deals with a limited number of participants at a time, and focuses on the fundamentals of the activity with an emphasis on safety, where appropriate.

Instruction – Intermediate: This type of instructor helps participants refine basic skills, and introduces a variety of more complex techniques to individuals who already have some experience in the sport and who already exhibit a fair degree of proficiency in the activity. He/she provides more “customized” instruction based on the individual performance characteristics of each participant, and would be expected to manage bigger groups. An instructor working with intermediate performers is expected to be fairly knowledgeable in all matters related to the selection and adjustment of equipments. He/she may also act in a supervisory capacity for coaches working with beginners.

Instruction – Advanced: This type of instructor is expected to have extensive experience (as determined by each sport). He/she is expected to demonstrate superior abilities in the areas of teaching skills and analyzing performance in order to help participants refine advanced skills. He/she provides extensive “customized” instruction, including the development of new and innovative drills to address highly individualized problems. The advanced instructor is also expected to supervise coaches working with beginning or intermediate performers, and may be required to be competent in areas other than equipments, skills and techniques.

The table on the following page presents a summary of the different coaching streams and contexts of the new NCCP structure, and the main characteristics of the programs in which they are involved.





Summary Table – NCCP Coaching Streams and Contexts

	Coaching Streams						
	Community Sport	Competition			Instruction		
<i>Contexts</i>	Initiation	Introduction	Development	High Performance	Beginners	Intermediate Performers	Advanced Performers
Athletes or Participants	Young children	Children and adolescents	Adolescents and young adults	Adolescents and adults	All ages	All ages	Adolescents or adults
Emphasis of Program	Fun	Fun; acquisition of basic skills and tactics; positive competitive experience	Consolidation and refinement of competitive skills and tactics; preparing athletes to meet national level performance standards	Refinement of advanced competitive skills and tactics; preparing athletes to meet international level performance standards	Acquisition of sport-specific skills	Consolidation of sport-specific skills	Refinement of sport-specific skills
Duration of Program	A few weeks	15-30 weeks	40-45 weeks or more	Annual	A few weeks or lessons	Variable; lessons	Variable; lessons
Training Frequency	Once a week	Once or twice a week	5-8 times a week	6-12 times a week or more	Variable; once a week	Variable	Variable
Competition Level	Recreational, community	Local, regional	Provincial and national; Canada Games	National and international	None	None	None
Support to Athletes or Participants	Safety, fun	Safety, fun, skill development, basic tactics, management in competitions	Physical, technical, tactical and mental preparation; design and monitoring of an annual sport program for national level competitions	Physical, technical, tactical and mental preparation; design and monitoring of an annual sport program for national level competitions	Teaching skills, correcting technical errors	Teaching skills, correcting technical errors	Teaching skills, correcting technical errors



Coach Certification and Training/Education Opportunities In the New NCCP

NCCP Outcomes

The new NCCP will establish a clear distinction between “coach training/education” and “coach certification”. However, both will be designed around well-defined “outcomes”. NCCP outcomes are statements that outline what a coach must be able to do in order to become certified in a particular stream and context. Some outcomes are fairly similar from one coaching context to another, while others are very sport- and context-specific.

Coach Certification

Coaches who want to be certified within the NCCP will be asked to demonstrate that they can meet the specific requirements identified by their sport for the context in which they seek certification. These requirements (or outcomes) may apply in areas such as:

- Analyzing performance
- Planning a practice
- Designing a program
- Managing a program
- Providing support to athletes in training and in competition
- Making ethical decisions

Certification requirements will be adapted to each coaching stream and context. However, before any coach can be considered “NCCP certified”, an evaluation of his/her coaching skills will have to take place.

Coach Training and Education

In order for coaches to acquire the knowledge, skills, and attitudes needed in their context, outcomes-based training and education opportunities will be available in each of the areas listed in the previous section. Learning opportunities may be available either in a “multi-sport setting” (i.e. to groups of coaches of the same context, but of different sports) or in a “sport-specific setting” (i.e. to groups of coaches of the same context and sport).

Coaches who take part in multi-sport or sport-specific training and education opportunities will be considered “NCCP trained” in the context for which the learning activity applies.

a) The CSPA Coaching Program in association with the NCCP:

The association between Coaching Association of Canada (CAC) / National Coaching Certification Program (NCCP) and the CSPA Coach and Instructor system allows for the registration of CSPA's certified coaches with the CAC. Benefits accrued by the association include:

- National recognition for the Coaches
- Access to valuable resources for updating coaching techniques
- Professional Development opportunities

Presently two of the CSPA ratings fall into the NCCP framework, the coach of a novice skydiver, the Coach 1, falls into the Instructional Stream, Beginner context, while the Coach 2 falls into the Instructional Stream, Intermediate context.





Note: This course was designed to include theoretical and technical information on coaching. As such it includes technical skydiving information and material from the CAC Module B theory course. It was specifically designed to fulfill the NCCP requirements (outcomes) for the Instruction Intermediate context. [Section B - Plan a Jump](#) (Analyzing Performance and Planning a Practice), [Section C - Conduct a Safe Skydive](#) (Provide Support to Athletes in Training), and [Section D - Making Ethical Decisions](#).

Coach 1 (Instruction Beginner): The Coach 1 will assist Solo and higher Certificate of Proficiency (CoP) holders to acquire basic skills for individual skydiving on a daily basis. Training takes the form of a three day course that includes classroom and skydiving activities. The emphasis in the course is on teaching the coach how to coach effectively, and then letting novices practice and demonstrate their abilities through guided exercises and simulations. The course provides the most up to date information on "how" to coach, making the course both enjoyable and informative. Graduation is based on, attendance and participation, a written quiz, and the evaluation of coaching simulations and jumps. As such the Coach 1 fits the Instruction Beginner context

“Instruction – Beginners: This type of instructor teaches basic skills to individuals with very little or no experience in the sport or the activity. The coach deals with a limited number of participants at a time, and focuses on the fundamentals of the activity with an emphasis on safety, where appropriate.”

Note: In the NCCP system a coach is trained in a course and then separately evaluated in the field with real athletes. In skydiving it is imperative that evaluation is covered in the course through simulations provided by the learning facilitators, so that graduates can immediately work safely with novices.

After successful completion of the course, the Coach 1 will work with Solo-CoP holders, helping them to improve their skydiving skills. This is the "practical" section of certification where the coach gains experience through the application of the information from the course and creates a **“portfolio”** that is required for certification. The Coach 1 is the foundation for all other CSPA coaching and instructing ratings (i.e. Jump Master-JM, Skydiving School Instructor-SSI, Instructor Progressive Freefall-IPFF, SSE and Coach 2).

Coach 2 (Instruction Intermediate): The Coach 2 will assist experienced novices and recreational skydivers to an advanced level of overall skill development, encouraging regular participation by setting goals for performance. Training will also take the form of a weekend course with evaluations by way of written tests, practical demonstrations, and skydiving activities.

“Instruction – Intermediate performers: This type of instructor helps participants refine basic skills, and introduces a variety of more complex techniques to individuals who already have some experience in the sport and who already exhibit a fair degree of proficiency in the activity. The coach provides more “customized” instruction based on the individual performance characteristics of each participant, and would be expected to manage bigger groups. An instructor working with intermediate performers is expected to be fairly knowledgeable in all matters related to the selection and adjustment of equipments. He/she may also act in a supervisory capacity for coaches working with beginners.”



After successful completion of the course, the Coach 2 will work with individuals and groups at the drop zone, helping them to improve their skills in accuracy, formation skydiving, free fly, style, canopy piloting or Canopy Formation, etc.. Again, this is the "practical" section of certification where the coach gains experience through the application of the information from the CSPA technical and theory course and creates a "**portfolio**" that is required for certification.

It is hoped that in the future, CSPA will have the resources to provide training for coaches of competitive skydivers (Competition Introduction / Competition Development)

Summary of the CSPA / CAC requirements for the Coach 1 (Instruction Beginner) and Coach 2 (Instruction Intermediate)

Course	Technical Components	Portfolio Tasks
Coach 1	<ul style="list-style-type: none"> • Coaching Tasks • Manoeuvre Series (video) • Freefall FS Skills • Coach Jumps • Accuracy • Packing • Making Ethical Decisions • Quiz 	<ul style="list-style-type: none"> • Perform 50 Jumps • Complete 25 coaching contacts – to include one jump observed and debriefed by a certified Coach 2 • Complete the CAC Ethics Evaluation (on-line) • Complete the portfolio booklet and submit within 1 year
Coach 2	<ul style="list-style-type: none"> • 1 on 1 FS Coaching • Accuracy/Canopy Flight 	<ul style="list-style-type: none"> • Perform 50 Jumps • 25 must be in air 1-on-1 jumps – to include one evaluation jump observed and debriefed by a certified Coach 2 • Completed portfolio booklet and submit within 1 year

b) Additional CSPA Instructing Ratings

Note: The following ratings presently fall outside the scope of the CSAP / CAC association and as such do not result in a NCCP accreditation as does Coach 1 and Coach 2.

Jump Master-JM: This program will take the form of a three day clinic. Training will be specific to the equipment, aircraft and progression sequence recommended by CSPA and used at the particular drop zone. To enrol in the program, the individual must have successfully completed the Coach 1 technical clinic. As the practical component, the Jumpmaster will be asked to complete a portfolio of activities with student parachutists.

Instructor Progressive Freefall-IPFF: This training will be completed through a course presented over a number of days. Pre-requisites are C2 technical and either Certified JM or Certified SSI. Following the clinic, the Instructor PFF practical component involves jumping with student parachutists in the PFF role to complete the portfolio.

Skydiving School Instructor-SSI: The major privilege of the SSI rating is that of being the First Jump Course Instructor. Training will be completed at a weekend clinic involving classroom activities. The course content will be oriented to the drop zone's specific techniques and facilities. After completion, the SSI will be asked to participate in the club or drop zone's training programs as a portfolio completion requirement.





Skydiving School Examiner-SSE: This is an examiner position where a candidate requires the following:

- C-CoP
- Certified in either JM or IPFF or C2
- SSI certified, JM Certified and GCI certified

The candidate will work through a portfolio task book being mentored on administering CoP exams and related activities as a Certificate Administrator or Log Book Examiner. This SSE role can also serve as the Chief Instructor for CSPA school affiliation purposes. More info will be found on the CSPA web site at <http://www.cspa.ca>.

Ground Control (Radio) Instructor-GCI: This is a hands-on rating using material covered in the Jump Master, Skydiving School Instructor (optional) or Coach 1 (optional) courses. As a prerequisite, the candidate must directly observe a minimum of 25 ground control contacts by a certified and highly experienced ground controller (GCI certified). Following the GCI training and sign off by a Course Facilitator, the candidate must provide canopy guidance for 25 students under direct supervision of a rating holder. This mentoring program produces a portfolio that acts as the basis for certification.

Coach 2 DS (Designated Sport): Under development. See website for updated information as it occurs.



Summary of CSPA's non-NCCP Ratings

Course	Technical and Theory Components	Practical Tasks
Jumpmaster	<ul style="list-style-type: none"> Instructing Tasks Spotting Equipment Dispatching Exam 	<ul style="list-style-type: none"> Prior to dispatch on their own, must dispatch 6 students under the direct supervision of a highly experienced, certified JM Dispatched 25 students by IAD or SL Supervise 25 students who are under canopy guidance (radio or arrow) Complete Portfolio booklet countersigned by a Certified SSE or Course Conductor
Skydiving School Instructor	<ul style="list-style-type: none"> Classroom Teaching Risk Management Exam 	<ul style="list-style-type: none"> 3 first jump courses – to a minimum of 10 students under the direct supervision of a highly experienced, Certified SSI Complete Portfolio booklet countersigned by Certified SSE or Course Conductor
Instructor PFF	<ul style="list-style-type: none"> Jumps from main and reserve side 2 on 1 with minor to major problems 1 on 1 with minor to major problems Exam 	<ul style="list-style-type: none"> 25 PFF Jumps including at least one 1:1 PFF jump evaluated by a certified IPFF Complete Portfolio booklet countersigned by a certified IPFF or Course Conductor Be certified in Coach 2 and SSI or JM
Skydiving School Examiner	<ul style="list-style-type: none"> Certificate Administration Log Book Examiner 	<ul style="list-style-type: none"> Write the A, B & C-CoP exams, open book Administer a CoP exam Administer a Solo Certificate Receives the Night & Water Endorsement by the supervising instructor and instruction on administering the Night & Water Endorsement briefings Receives Emergency Procedures Review endorsement briefing/info from the supervising instructor, up to their CoP level
Ground Control Radio Instructor	<ul style="list-style-type: none"> Mentored practical exercises Observe 25 ground controls prior to taking control 	<ul style="list-style-type: none"> Directly observe a minimum of 25 ground controls by an experienced, certified ground control instructor. Provide ground control to 25 students under direct supervision of certified Ground Control Instructor





Module 1.3 - Role of the Coach 2

Information concerning the National Coaching Certification Program, Participants' Reasons for being in Sport, and Effective Communication, can be found in the Coach 1 Reference Manual, Module 1.3, pages 21 to 24.

1.3.1 - The Coach 2's Role in Skydiving

As a Coach 2, you are a member of the drop zone's coaching and instructional team. You will work with novices and recreational jumpers, helping to improve their skydiving skills. You also work with instructors, other coaches and the drop zone operator, sharing the responsibilities and workload for teaching and documenting the activities. The coach's role is therefore one of leadership and management.

1.3.1.1 - The Coach 2 as a Role Model

As the coach for a skydiver on the drop zone, your novice will look to you for the correct ways to behave. Other jumpers will watch your skydiving techniques, trying to copy the way you perform. This can include the way you dress, the way in which you prepare for the jump, the care and attention directed towards your equipment, the caution shown towards the dangers of the jump and your general attitude and deportment. However, their observation and copying of your behaviour is not restricted to your skydiving techniques; they are likely to adopt your methods in some of the following situations as well:

- Your method of working with inexperienced people (do you support and encourage new jumpers?)
- Your interactions with other experienced skydivers (do you respect their experience?)
- The ways in which you respond to questions from spectators and non-participants (do you answer each question with sincerity?)
- Your behaviour towards the pilots, the drop zone operator, other Coaches and Instructors (do you show respect for others?)
- Your comments pertaining to the club, drop zone, the provincial and national systems and organizations (are you reflecting a positive image?)

The correct behaviours are summarized by the term "professional", showing respect for both individuals and organizations alike. These are the types of behaviour that you would like to see in your novices. It is of considerable importance for you and your fellow Coaches to provide this type of leadership in order for the novices to learn the correct ways to skydive and to interact with others whom they will encounter.

1.3.1.2 - Role of the Coach 2 on the Drop Zone:

The Coach 2 plays an important and vital role on the drop zone, and as such wears a number of different hats. The Coach 2 will assist recreational skydivers to achieve an advanced level of overall skill development by encouraging regular participation and by setting goals for performance. The Coach 2 works with individuals and groups at the drop zone, helping them to improve their skills in accuracy, 4-way Formation Skydiving, style, accuracy, CFS, free fly and canopy piloting. This is the "practical" section where the coach gains experience in applying information directly to the novice skydiver. The Coach 2 plays a major role in helping Solo and A CoP holders to achieve their next certification level. The list of roles of the Coach 2 would include:

- leadership in jump activities
 - direction & leadership to those accompanying you
 - coordinate by delegating some aspects to the novice
- positive role model



- demonstrate the types of behaviours which you wish to develop
- skydiver development
 - help novices achieve their goals in skydiving
- observer
 - skill analysis
- teacher
 - apply teaching process
- administer endorsements
- develop a drop zone progression program
- give seminars on skill development or safety
- assist other coaches
- jump with novices that are having difficulty
- provide leadership on the drop zone
- promote CSPA
- style, accuracy, formation skydiving, freestyle, free fly, canopy formation, canopy piloting
- mentor and develop Coach 1's
- assist recreational skydivers to an advanced level of overall skill development
- assist recreational skydivers in goal setting

What are the major differences between the role of the Coach 2 and the Coach 1?

- Coach 2 can make contact in the air – the Coach 1 is an observer, no contact
- More advanced skills, fine tuning of existing skills
- Higher level skill analysis will be required
- More technical knowledge is required
- More senior position e.g. can mentor and develop, help Coach 1's
- Coach 2 can certify certain requirements; Coach 1 can verify but not certify

1.3.1.3 - Role of the Coach 2 in the CSPA CoP system.

See section 3.4 for further information.

The following can be found as either appendices or on the CSPA CWC website, <http://www.cspa.ca/cwc>

MPE – Main packing endorsement

SCE – Sport Canopy endorsement A and B

EPR – Emergency Procedures Review A, B and C

EJR – Exhibition Jump Rating

In section 3.1 we discussed the role of the Coach 2. We confirmed the role that you play at the drop zone, and identified the skills and qualities that you must demonstrate to be an effective coach. During this course we provide you with the information and opportunities to develop these skills.

Read ahead 6.1.1 – Review of Coach 1 on page 97





Section B) Planning a Jump

Module 2 – Coaching Techniques

Module 2.1 – Goal Setting and Self-directed Skill Development

Goal Setting: The Coach 1 program discussed goal setting for the jump in some detail. The focus of the Coach 2 material is to extend into planning for a weekend through to a whole skydiving season. In this section, goal setting will be discussed under the following headings:

- goal setting for the jump (Coach 1 review)
- goal setting for the weekend
- goal setting for the season
- collaborative goal setting

Goal setting for the Jump: As a practicing Coach 1 you have now acquired some experience with this process. You have been setting goals for each of the 5 phases of the skills grid on a jump and you should have set some goals related to technical knowledge between jumps. When setting a goal, you may want your skydiver to attempt a new skill, or to improve an existing skill through practice or you may want to introduce a break in the process through a fun or novelty element.

In order to set goals, you have to be able to accurately identify your skydiver's current skill level. Then use the four step process:

1. State what goals you want to achieve for the jump – use skills from the skills grid
2. Describe the level of behaviour desired – The specific and measurable behaviour (end product).
3. State the performance conditions – exit altitude, airspeed, etc
4. State the pass criteria for today – how many times the performance should be achieved

Goal Setting for the Weekend: A weekend provides a little more flexibility and allows for a more structured development of skills. It allows you to combine these three elements of goal setting for your skydivers:

1. Review and practice skills which were learned earlier
2. Teach them new skills over a series of jumps
3. Introduce fun elements into the teaching process.

At the end of the weekend, you would like to know that your skydivers are going home with a sense of accomplishment, having learned new skills and improved their existing skills, plus having enjoyed themselves through participation in your skill coaching program.

Goal Setting for the Season: The season as a timeframe is the long term element in the goal setting process. Each skydiver with whom you are working will be considering overall goals for the season. Seasonal goals may incorporate improvement of skydiving ability, an improvement to physical fitness and specific achievements such as a 10-way crest, the C-certificate, turning a 12 second set or a 10 point sequence. Other things which might be included are acquiring or replacing one's parachute equipment, getting a new jumpsuit or participating in a competition like the provincials or nationals.



To develop a seasonal plan, identify your resources and then follow the process as described below with the following four steps:

1. Plan
2. Implement & monitor
3. Evaluate
4. Refine.

The first step is the planning itself. To plan, identify your goal(s), or major objectives. For each goal, you will have a few lesser objectives, those which contribute to achieving the goal. Having stated what you want to accomplish, look at the resources which are at your disposal. Resources are things which exist in limited quantity, but which are needed to achieve the goals; examples of resources are: money, time, aircraft, weather, jumps, coaches and skydivers. Distribute these resources among your goals, making certain that you get optimum results from the use of each resource. Combining the goals with the resources should provide you with the answers to when and how you are going to do the activities you have identified.

The second step in the process is to put your plan into effect. This is when people are brought together with the ideas. Money is spent, time passes, and your skydivers make their jumps. During this period, it is important that the Coach refer back to the plan, checking the completion of events against what is written, and monitor or measure the results. Without knowing what happened, who made the jumps, or how they felt about the activities, you can not proceed to the next step. Make the effort to put your plan into action, and remember to watch the results so that you can proceed to step three.

The evaluation step is critical to the planning process. It brings together the ideas from the plan with the results of the implementation to determine the quality of the plan, and the quality of the effort made to put the plan into practice. Ask yourself these questions at this stage:

- Did we complete each of the activities as set out in the plan?
- Were the resources equal, greater or less, than those identified as necessary to the success of the plan?
- Were the results of the activities equal, higher or lower than those projected for each at the beginning of the season?
- Were there any extenuating circumstances which affected the implementation of the plan?
- What are the strengths of the plan, the weaknesses? How can I make adjustments to gain from the strengths and improve the weaknesses?

The fourth step is essentially a repetition of the first, although it can be said that having once implemented a plan that the experience gained, whether successful or not, means that you are not starting at square one for any subsequent efforts. If the plan worked reasonably well, all you have to do is clean up the details and minor hitches. If it didn't work, at least you know not to try that plan again, in the same circumstances. If the circumstances change, then it might work.

In the classic sense, the focus of the seasonal plan is on the development of an athlete or a team of athletes for a series of competitions. However, this may not be exactly suited to your position at your club or DZ, nor to your interests. You may want to consider that the focus of the plan could be a group of novice or intermediate skydivers, or some recreational skydivers or FS teams. As a Coach 2 providing seasonal planning to your athletes is a goal.





Collaborative Goal Setting

It is important to take some time with the individual when you agree to help coach them. Use an organized process; consider goals which relate to your skydiver's skills in the sport, their knowledge about the sport and what opportunities are available, their current level of physical fitness, the suitability of the equipment he owns towards their expressed goals, and their current level of qualifications. As an experienced and knowledgeable skydiver, you should be able to assist your skydiver to focus more precisely on his achievable goals, while removing those which are either not achievable or which might be in conflict with his major goals.

Individuals participate in sports for one of four reasons which are:

1. Achievement - certificates, awards, ratings, medals & trophies
2. Affiliation - to be considered a skydiver, accepted by the group
3. Self-direction - to control their own destiny, make decisions
4. Sensations - enjoyment of the sky and the air

Not all of your skydivers will share your goals; accept and value their differences. Try to assist them to identify their own goals, not just restate your goals in their own words.

Remember that the coach is the facilitator in goal setting with the athletes. Provided you have gathered the information above, you support the setting of goals by the athlete that are both measurable and achievable. Goals must be set by the athletes in order for the athletes to take ownership of them, and to feel motivated to achieve them.

Payoffs from Collaborative Goal Setting

- Clearer goals and priorities.
- Increased commitment and motivation.
- Increased confidence and sense of accomplishment, and improved morale.
- Coping mechanisms improve because goal setting helps keep performance in perspective and helps manage challenges one step at a time.
- Athletes mature through taking increased responsibility for their directions.
- Problem behaviour decreases as self-responsibility increases.
- Athletes develop an appreciation for goal setting as they benefit from having achieved the goals they have set; this often transfers into other areas of life.
- Athletes show increased empathy for the needs and rights of others.
- Communication is improved as goal setting provides a forum to express needs and desires related to sport performance.
- Athletes are happier and have more fun, because having fun in sport is usually directly linked with feeling successful and meeting challenges.
- Athletes perform better because they have achievable and challenging targets to aim for together and individually.

Sample Goal Setting

The following outlines a *collaborative goal setting process* that you might use with coaches and athletes. It may be used for individual or group goals. The illustration below is based on a group goal setting process.



The steps required for this process include:

1. Establishing importance or meaning of the goals.
2. Identifying areas in need of attention, in terms of outcome or process-type goals.
3. Clearly articulating goals for the season or year.
4. Identifying criteria for success.
5. Identifying a “road map” (strategies) for success.
6. Developing a monitoring and evaluation system.

The chart on the next two pages outlines these steps.





Goal Setting Steps	Notes
<p>Determining the importance or relevance of team membership Question: <i>What does it mean to be a part of this team or of this group?</i></p>	<p>Athletes:</p> <ul style="list-style-type: none"> • Reflect on the importance of being involved in the team. • Are invited to share their thoughts and “feelings” with the group. <p>Coach may <i>model</i> if necessary. Rationale: a mutual awareness of the relevance of the team experience may serve to increase cohesion and commitment.</p>
<p>2. What does the team or group need to work on this year? Question: <i>What evidence is there that we need to work on “X and Y”</i></p>	<p>Identify whether the issues raised pertain to:</p> <ul style="list-style-type: none"> • Competition results. • Self Improvement – e.g. personal fitness level or performance level. • Process goals – e.g. means by which results achieved <p>Identify whether the team needs to work on physical conditioning, technical, or mental skills.</p> <p>Highlight the interrelationship between process and outcome type goals.</p> <p>Rationale: it is important to identify whether goals are related to ongoing behaviours of team members or to outcomes such as championships.</p>
<p>3. Clearly specify the goals for the season/year. Question: <i>What exactly do we wish to achieve this year?</i></p>	<p>Clearly identify goals.</p> <p>Record the goals as either</p> <ul style="list-style-type: none"> • Competition results • Self improvement • Process • Long term • Short term <p>Group “signs off” on the goals. Post for everyone to see.</p> <p>Rationale: Clearly articulating and recording goals and signing off is a public record of team commitment.</p>
<p>4. Determine criteria for success Question: <i>How will we know we have achieved our goals?</i></p>	<p>Develop a list of:</p> <ul style="list-style-type: none"> • Outcome criteria –changes in performance or results we wish to see. • Process criteria – behaviours we will have to observe to know that we are “on track”. <p>Rationale: Clearly establishing criteria for success is important, so that team or group members are able to self- monitor, and/or recognize whether goals are being realized.</p>



<p>5. Develop a road map for success</p> <p>Question: <i>What behaviours/actions are necessary for us to achieve these goals?</i></p>	<p>Brainstorm with the group strategies for achieving outcome (results or self-improvement) or process – related goals.</p> <p>Clearly articulate and record the strategies for success.</p> <p>Rationale: Knowing where you want to be is only one part of the equation. Establishing a “road map” for success is critical to the goal setting process and to goal attainment.</p>
<p>6. Develop a monitoring and evaluation process</p> <p>Questions: <i>How will we know ...</i></p> <ul style="list-style-type: none"> - <i>If we are on track?</i> - <i>If we are achieving our goals?</i> - <i>Whether or not we need to adjust our goals?</i> 	<p>Coaches design a monitoring and evaluation system, e.g.</p> <ul style="list-style-type: none"> • Observation of athlete behaviours and hold regular meetings. • Regular fitness and/or skill assessments. • Integrating mental skill simulations into practices. <p>Rationale: Establishing a means of monitoring and evaluating progress is critical for motivation of athletes and for “readjusting” goals where necessary.</p>





Planning For Mental Preparation within a Season

There are no steadfast rules for when mental skills can and should be developed within a season, however some general guidelines are provided in the chart below.

Mental Skill	<i>Time of the season</i>			
	Beginning	Middle	Around Key Competitions	End
Goal Setting	Identify goals Set goals <ul style="list-style-type: none"> • Outcome goals (What do we/I want to achieve?) • Process goals (How do we/I achieve these goals?) 	Monitor Assess Re-evaluate	Re-evaluate	Debrief Re-evaluate
Managing Focus	<ul style="list-style-type: none"> • Introduce skill • Develop athlete awareness • Develop basic skill • Assess basic skills • Refine basic skill 	Simulation Develop performance routines Refine performance routines	Refine performance routines Implement (performance routines)	Debrief



Module 2.2 - The PAF Plan

Presentation – Application - Feedback

The sequence of activities for teaching a skill can be summarised by the following six activities:

1. Decide the goals / skills of the jump that are consistent with the Skills Grid developmental model, making sure they follow the SMART principles (Specific, Measurable, Achievable, Relevant, and Time-bound).
2. Use the principles of skill analysis to analyze the movements or phases of the skill.
3. Decide on the main teaching points and select the appropriate presentation technique including how you will demonstrate any skills in the presentation.
4. Design the appropriate drills for skill application / demonstration by the novice.
5. Prepare / locate the appropriate training aids.
6. Prepare the classroom environment.

Once you have given thought to all these activities it is best to prepare a game plan. The preparation and use of the **lesson plan** or **outline** is very important for the teaching of skills.

- It really makes you think about why the material is important,
- You can decide what you are going to teach, how you will do it, etc.
- It allows you to focus and decide on the exact content of the main teaching points so that you do not wing it and create a confusing skills presentation.
- You can pre-plan how the novice will show you that they have learned the skill and what the pass criteria for the skill will be.
- A lesson plan prevents digression and ensures that you remember to present all the information.
- Finally, it makes you look professional, keeps the session on time and the information succinct.

Remember that once written, the PAF Plan can be used with other novices. The lesson plan should be constantly updated and amended with all the secret stuff you will learn through your own experiences as a coach. Lesson plans are not static and it is not "cool" to stop using one once you gain some experience. Professional pilots use a checklist every time; so should you. Keep using your lesson plans.

A good lesson outline will have about **six sections**. The following example plan works well:

Section	Content
1) Goals or Objectives	<ul style="list-style-type: none"> • what the novice will be able to do (outcome) • the skills that will be taught
2) Introduction	<ul style="list-style-type: none"> • state what the goals are • explain why they are important (the sell) • include an estimate of time involved
3) Training Aids	<ul style="list-style-type: none"> • Select aids to make it as realistic as possible
4) Main Teaching Points (MTP) and Presentation Strategies	<ul style="list-style-type: none"> • restrict the number of points (KISS) • each MTP is PPAF • pre-analyze the skill so you can teach the parts correctly • decide what you will demonstrate and how and from where the novice will observe
5) Novice's Demonstrations of Learning	<ul style="list-style-type: none"> • decide how they will demonstrate that they have learned your skill • include questions for the novice if





	<p>appropriate</p> <ul style="list-style-type: none"> include the pass criteria in the plan make notes on the type of feedback you might have to provide
6) Summary	<ul style="list-style-type: none"> here you highlight the correct key points, key words so they leave the training session with the correct information and skills

1) Goals or Objectives

These should be written in such a way that you are able to decide whether they have been achieved. To be effective the outcomes or goals must:

- Involve action (doing) rather than an inanimate concept (knowing or understanding).
- Be based on defining the new performance that will be expected of the student after the learning session.
- State under what conditions the new behaviour will be demonstrated.
- State the expected performance standard.

The key is to constantly ask: **What will the student be able to do after this session?**

2) Introduction – Includes estimate of time involved

Motivation is a key part of learning so *sell* the coaching session to them. What the novice is learning should make sense and have meaning. A good way of setting up the coaching session is to quickly give them a:

- What** – Simply state what it is that they are going to learn, e.g. fall rate or levels; docking; turn and dock
- Why** – Fall rate maintenance is part of the progression sequence which is teaching them to control their body in relation to someone else in the air. It is a FS skydiving skill and of course it is also fun to play Simon Says. Some skills are related to safety and these are always a good motivator to pay attention and learn.

When working with novices there will be a time limit for an effective briefing and skill teaching. Fifteen to 30 minutes is a reasonable amount of time. You can always give the novice more time to practice the skill on their own. Remember the idea is to present all the information needed in an efficient manner and a lesson plan ensures that this will be done.

3) Training aids.

It should be clear from learning theories that the use of realistic training aids is essential for effective learning. The aim is to provide your student with a clear picture of the must know information, emphasised from the student's point of view and action. When considering the use of teaching aids, you should keep in mind that whenever possible the *real thing* should be used. If it is not practical to have the real thing in class, then an accurate model or mock-up is next best. Make sure they are available and that you know how to use them. Above all try to ensure that practising of the skill occurs in the same axial plane as the skill is done. For freefall skills, this means laying it down on the ground or a creeper. For canopy control skills, it may require a walk through the landing area or sitting on a swivel stool to practice turns or emergency procedures. See also Coach 1 Reference Manual, section 2.5.4.11, page 71.

4) Main Teaching Points (MTP's) and Presentation Strategy

Skill analysis shows itself in two different ways. In order to teach skills to your students, you must have had the opportunity to analyse the skill done correctly so that you can present the material



using the correct technique. In addition, in the feedback stage of the teaching process, you will need to analyse the student's performance so that you can correctly critique the movements and actions. The Principles of Skill Analysis are discussed in Section 2.4 page 45 of this manual and Appendix - Coach 2 - Principles of Movement, page 118.

Once you have decided on the main teaching points, you will have to decide on how best to present the material. If there are several Main Teaching Points, divide the plan up into separate sections. You should teach skills through WPW. Utilise psychomotor skills to enhance muscle memory.

5) Novice's Demonstration of Learning

In this section you need to write out what the novice will do to demonstrate that they are able to do the skill. This is done Part-Whole. Take the time to ensure that the parts are understood by the novice and tweaked to perfection before the novice attempts the entire skill. It is also important to think about what constitutes a "perfect performance" on the ground. The novice should be able to do the skill in real time and include any safety aspects such as altimeter checks, the break-off wave and deployment, especially in the final demonstration. Save any unusual situations that can occur until the *very end*, and discuss them very briefly, without too much emphasis.

6) Summary

In this section you provide them with your version of the key points. This *correct* version is last mentioned (Primacy-Recency effect on learning) and it ensures that they go away from the training session the correct information in their mind.





Module 2.3 – Advanced Skill Teaching

As a coach, you are involved with several different types of teaching. This section is intended to assist you with development of your skills in this important area. You will receive additional material pertaining to the following topics:

- 1) Technical presentation in the classroom
- 2) Suggestions for seminars
- 3) Tips for weekend skydiving clinics
- 4) Shaping
- 5) Chaining

2.3.1 – Technical Presentation in the classroom

Teaching in the classroom differs from teaching on the DZ itself just as teaching to a large group differs from teaching one or two individuals. The information which follows will help you to teach in different teaching situations.

Teaching a skill: When teaching a skill on the DZ, you begin by **preparing**. This includes reviewing your resource materials, collecting the required training aids and setting up the classroom area. Write down a brief plan of what you will teach, how you will do it and what type of evaluation you will employ. Next, you **present** the skill to your skydiver(s); this presentation will include some on-ground demonstrations of the skills by you or a demonstrator. After the presentation, the novice skydiver must **apply** the learning, by demonstrating the skill to you so that you can provide formative feedback. In skydiving they also get to apply their learning by performing the skill in the air or aircraft or under canopy, as is appropriate. A key point is to ensure that they can do it flawlessly on the ground so that they can perform in the air. The **feedback** occurs in the application phase and also after the jump. Here you debrief the performance or application of the skill. You provide guidance as to what parts were done well and which aspects could be improved, including how to accomplish that improvement, and in addition practicing the desired change in behaviour. This is the teaching method for the DZ.

Giving a Technical Presentation: During the evening or when bad weather halts the skydiving, you may want to move indoors to the classroom to discuss one or more skills or areas of technical information with a group of skydivers. You may wish to host a series of Friday or Saturday evening seminars to bring more people to the DZ or to keep them on the DZ after they have arrived. In any case, moving into the classroom, you will be making technical presentations. The steps of the teaching method are valid in the classroom although they may look a little different during the delivery. In addition, there are a few tips which will make the whole activity somewhat easier.

For the **presentation** step, you will talk to the group. You can use a flip chart or chalkboard or whiteboard to list the key points of your lecture. You are well advised to bring in a couple of experienced coaches/skydivers who are prepared to provide an expert-level demonstration illustrating the key points of your talk. A film, video or slides can be used to add further to the presentation, ensuring that the skydivers who attend will have a clear idea of the points you covered.

For the **application** step, you may ask some questions of your audience. You may show more film or video tapes, and then ask them for comments and an identification of good and bad examples of the points which you presented. You might divide the audience into



three or four small groups, and then ask them independently to solve a problem which you give them.

For the **feedback** step, you can respond to the results of your questions. Comment to the group about how well they have understood the information which you have tried to convey. Ask for further questions. Provide the audience with a final summary, reviewing the key points, and highlighting the ways in which they can incorporate the information you have provided into their skydiving, on their next jump, and in the future.

Spend some time preparing for a presentation. Think about what you want your audience to be able to do after they have listened to you that they were not able to do before the presentation. Ask yourself the question, "What's in it for my audience?" If you cannot answer this question, your preparation is not complete. Your talk must be made very simple because the presentation will lack real activity (i.e. skydiving). Identify the key points, support them with an illustration or two, but avoid the common error of going into too much detail.

Ensure that your audience has something to take with them. It might be the dirt dive for one or two skydives; it might be a new way of looking at a group of skills. It is essential that they feel that they have gained something for themselves by listening to you. Give them a handout on the topic presented. Otherwise, the next time you offer a presentation, they will feel that there is nothing to be gained and will find something else to do with their time. Do not send them out the door with nothing but a bunch of words, details and a sore butt from sitting too long. Try to make the presentation entertaining as well as enlightening.

2.3.2 - Suggestions for holding Seminars

The purpose of seminars is to deliver information, and create an organized forum for discussion of information and techniques which are not adequately or routinely covered during the normal run of skydiving activities. Examples of three such items are:

- i) Unusual procedures, and
- ii) The model of freefall control
- iii) High-performance canopy control.

Many jumpers are interested in expanding their knowledge about the sport of skydiving, but lack the resources and are confused by the contradictions between what is written, what they hear on the DZ and what they observe working in the air. The sport of parachuting is filled with "theories" of how and why things work; there are a great number of old ways to do things, and there are some distinct improvements and advances in techniques which have been achieved in only the last few years.

You can be a part of the process of modernizing the sport by presenting seminars which highlight current techniques, equipment information and the simplified models for freefall techniques and safety, canopy control and safety, and discipline-specific techniques. Here are a few tips from skydivers who have given lots of DZ seminars:

- complete the lecture portion in 30 minutes maximum
- use 15 to 30 minutes for the demonstration and questions
- direct your information to a specific experience level, rather than trying to include everything about the topic
- take two to three hours to prepare and rehearse; you will realize the benefits of this





- practice quite quickly
- do not let questions take you too far off the topic
- limit the number of jump stories to only one or two
- stick to the basics; make it simple; K.I.S.S (Keep It Short and Simple)
- speak clearly and slowly and say only what is necessary
- use audio/visual aids when you can, videos, pictures etc.
- have fun and keep smiling

2.3.3 - Tips for Weekend Clinics

The weekend clinic gives you the opportunity to combine coached skydiving with technical presentations. You can deal with a selected topic in somewhat more detail as a result of the larger time frame which is available. This discussion will focus on only a few of the aspects of a weekend clinic:

- organizing a weekend clinic,
- getting a weekend clinic underway, and
- closing a weekend clinic.

Organizing the Clinic: The key word here is **Plan!** Start by identifying what the participants are going to get as a result of their attendance. Make certain that it is something of value. A weekend clinic is not just an opportunity for you to make some free skydives. Estimate the size of the group, and their level(s) of experience; tailor your material to their needs.

Select your assistants, establish a budget and then determine the costs for the participants. Divide the arrangement responsibilities among the staff for the clinic. One person can look after facility arrangements, another person advertising, a third can look after paperwork and registration. You may be able to qualify for financial assistance from the provincial organization; check into this yourself.

You should also look after the arrangements with the DZ operator: things like having one aircraft reserved for the clinic participants, a special jump rate for the staff and perhaps the participants, and settling the manifesting system prior to the start of the weekend. Determine the schedule for DZ student training, including times when they will require the classroom, the practice facilities and perhaps your aircraft.

Have a plan for the skydiving activities. Design the events of the first few jumps for the participants. Ensure that what they are experiencing in the air is related to your evening sessions for the classroom. You should plan for some of the jumps to offer a variety or fun component. Skydiving is not all seriousness and training. Provide a progression from the jump activities on Saturday to the jump activities on Sunday so that the participants are able to see their improvement. It is a good idea to present your key lectures and discussions on Saturday evening. In this way, everyone has some experience with respect to the topic; they will find the information more meaningful and more relevant to what they are going to attempt the next day.

Plan for bad weather as well. Ensure that you have some extra presentation and discussion topics which can be introduced if you are grounded due to high winds or non-serviceable aircraft. Be prepared to adjust your schedule to meet the needs of the participants.

Getting Underway: In delivering a weekend clinic, it is important that all of the participants know what is going on and how they can be involved. The first thing you should do is hold a briefing session, complete with a written agenda (albeit a fluid one) which introduces the plan for the weekend. This is best held on the Friday evening; if this is not possible because



many participants are driving long distances, then hold the briefing as early as possible on the Saturday. You may wish to organize most of the participants on the Friday evening, then hold a second briefing for late arrivals mid-day on Saturday. Here is a list of points to cover in the briefing:

- introduction of the staff members for the weekend clinic
- distribution of the paperwork including a schedule and reference articles if possible
- registration of the participants, arranged into groups
- identification of the events (jumps and lectures) for the weekend
- explanation of the objective for each event
- ground rules: starting and finishing times, manifesting, etc., and
- options or alternatives (input from the participants).

Closing the Clinic: A wrap-up at the end of the clinic provides participants with an opportunity to express their opinions about the events of the weekend. This is valuable to you when you consider improvements and changes for the next seminar. A wrap-up also provides you with an opportunity to summarize the events of the weekend from your point of view. It will allow you to make some comments about the quality of skydiving which you have seen and to give the group some short term objectives for their skydiving. Remember to thank those who assisted and to express your appreciation to your host, the DZ and the pilots.

2.3.4 – Shaping

Shaping is one process for teaching skills. It is used to help novice skydivers to eventually perform advanced or more difficult skills by starting with an easy or simplified version of the skill. Many of the skills in parachuting can be said to be taught through the use of the Shaping technique. Can you think of a few examples? Try to identify one or two for each phase of the skydiving skills grid:

- i) Preparation
- ii) Equipment
- iii) In-flight
- iv) Freefall
- v) Canopy control

Freefall skills, such as maintaining stability, FS docks, and turning, are each learned through shaping. The student skydiver begins to learn freefall stability in the easiest position, the basic arch. Later this is relaxed to a flat, flexed position known as the Box. The individual, by this time experienced, may further develop the position by adopting a Mantis style advanced FS position. FS techniques are begun with a straight ahead pin, made to a stationary target on the same level. Then in stages, the novice learns to move down and up to a pin. Turns are begun from basic arch, using only the upper torso. Later, turns will be made from other body positions, using the legs and knees. Eventually advanced moves such as super transitional or trans-rotational, and super positioning can be mastered from these base skills.

The steps in the shaping process are:

- briefly demonstrate, or explain the complete skill to be learned
- use a simplified, or incomplete version of the skill that includes the most important item or key action, (and something at which he can be successful)
- allow practice of the simplified skill, both on the ground and in the air
- modify the original and / or add additional or missing parts in steps incrementally as required





- encourage the skydiver, and note success relative to the goal of the whole skill.

2.3.5 – Chaining Skills

Chaining is another process for teaching skills. Some skills are made up of many separate parts. Chaining divides these complex skills into discreet parts. The learning process begins with either the first or last link or part in the chain and continues until all of the links have been completed. Can you think of examples of skills that are learned in this way? Try to identify one or two for each phase of the skydiving skills grid:

- i) preparation
- ii) equipment
- iii) in-flight
- iv) freefall
- v) canopy control

More complex skills, such as an accuracy approach or a delta swoop to a formation, are each learned through chaining. The accuracy approach is learned through forward chaining. The novice first learns the body position under canopy and set-up point for the approach, then control of the line and then angle of approach, finishing by combining all of these into the precision approach. The swoop to a formation is learned through a backward chaining process. He begins with the pin, then the flight for closing on the formation, then the dive, and finally the delayed exit, putting them all together in the swoop to a 4-way.

The steps in the chaining process are:

- divide the complex skill into its parts or links
- decide on forward or backward chaining
- demonstrate the skill using PAF – WPW
- have the novice practice (PW) the first (or last) action until perfected
- add to the chain, link by link, one piece at a time, until the entire skill has been learned
- this may be done on one jump or on a series of jumps

2.3.6 Techniques from Coach 1 to reach the Autonomous stage:

a) Position Reproduction

- Repeated movement to produce a specific position – e.g. box man, rest box man, rest, etc.

b) Isometric Contraction

- Contractions of the muscles while in a position to recruit neurons and develop neurological-pathways – clench your muscles while in the box man

c) Extreme Ranges of Motion

- Extreme range allows you to develop additional awareness – over arching makes the normal arch feel more comfortable

d) Pressure

- Exert pressure on limbs or surfaces gives you a better feel of where your limbs are. – Put your hands under the legs when you tell them to extend their legs

e) Eyes Closed

- Forces you to focus on the other senses – feel the position – try arching with your eyes closed and explain exactly what your arms and legs are doing

f) Internal Gyroscope

- Allows you to develop a sense of degrees moved and direction, works well with eyes closed. Try a turn with the eyes closed most people are pretty good at 360⁰

g) Timing / Internal Clock



- Train on real time sense. Very useful in skydiving - the final rehearsal should be in real time

h) Bilateral Transfer

- Training an action on one side of the body to a high level of proficiency creates a higher starting point for the same action on the other side of the body – do left turn, left turn, left turn on one jump, do not introduce figure 8s immediately.





Module 2.4 - Skill Analysis and the Principles of Movement (Biomechanical Principles)

Principles of Skill Analysis (see also Appendix - Coach 2 - Principles of Movement, page 118)

In the Coach 1 Reference Manual, you were provided with the first four (4) principles of skill analysis, or Biomechanical Principles (Coach 1 Reference Manual, Section 2.4.7, page 46)

1. Stability: comes from a low Centre of Gravity (CoG) and wide base of support.
 - Stability provides resistance to unwanted motion

2. Summation: Use all joints: *Maximum force*: use all joints that can be used (Summation of joint forces).
 - To initiate a movement make sure that all the appropriate joints that can be used are used.

3. Continuity: Use every joint in order: *Maximum velocity*: use every joint in order (Continuity of joint forces).
 - Order is correct and smooth (largest to smallest)
 - teach proper sequence and timing using whole-part-whole teaching.

4. Impulse: *Maximum change in velocity*: Applying a continuous force of a period of time produces a change in speed.
 - The larger the force and the longer you apply the greater your change in speed. This can lead to instability.

Recreational Skill Analysis:

Skill analysis describes the coaching activity during the Feedback step described in the Teaching Model. By now you should be skilled in the analysis of a novice's skill demonstration (e.g. a fast fall tuck, or a 1:1 sequential dive); you have considered the following information in order to do the analysis:

- the proper technique for the skill (one of the skydive skills)
- accurate observation of the actual demonstration
- principles of skill analysis
- external factors (e.g. weather conditions, actions of others)

The Process: The first step in the process of skill analysis is to reflect on what you have observed. Be certain that you have the analysis clear in your mind before discussing it with your skydiver. If you did not see the activity clearly, or cannot recall it clearly, explain that to the skydiver. There is no value in providing the individual with some form of standard (generic) critique which just reviews the common errors.

Consider the following points:

1. Was the set-up correct; was the starting body position correct?
2. Did the action look the way it should; did it start from the centre of the body; was it smooth and fluid?
3. Was the head position correct; was eye contact maintained?
4. Was the follow-through smooth?
5. Was the finish controlled; was the motion countered or fully stopped?
6. Was there a smooth transition to the next action; was there a pause?



The second step is to decide what few points were well done; highlight these. Decide what one or two points would, if done differently, make a significant improvement in the performance of the skill; identify how to correct these points so that the skill is done properly.

The third step is to review with your skydiver with an assessment of what was important for the skill. The sequence for doing this is

- Get the students view: Discuss the novice's feelings about their degree of success.
- Give your View: Provide your observations of the way you saw the skill performed.
- Three stars: Then discuss the points that were done properly
- and a Wish: Finish with one or two points necessary for improvement.

Keep it positive and motivated.

In the Coach 1 Reference Manual, you were provided with the first four principles of skill analysis. Here, you will find a review of the next four (4) principles, those concerned with the application of force for acceleration and rotation. The principles, as stated in the Reference text, are:

5. Check direction: Principle of Direction of Force Application: Movement occurs exactly in the opposite direction to the way force is applied (remember Newton's 3rd law of **Action=Reaction**)
 - eliminate or counter push in direction opposite to improper motion.
 - E.g. push left on creeper to move to the right
6. Torque: Principle of Rotational Momentum: To acquire rotational momentum, use off-center forces and transference.
 - complete rotations as desired
 - check timing and take-off; increase/decrease off-centre distance and/or increase/decrease size of force for faster or slower rotations
7. Principle of Conservation of Angular Momentum: To change rotational velocity, use large and small moments of inertia.
 - this allows one to control the rate of rotation
 - check for stretch and contraction; increase stretch away from the body to slow rotation; bringing in the limbs makes the rotation faster.

Compare these principles with the information provided in the Coach 1 Reference Manual and in PIM 2A, under Theory of Freefall Control. Note: the principles of skill analysis as presented in the older version of Theory 1-2-3 are found reprinted in this manual in the Appendix - Coach 2 - Principles of Movement, page 118.

Definitions: As an additional resource to aid your understanding of this theoretical material, a series of definitions from the CAC program are presented below:

- Angular Momentum: The quantity of angular motion of a body
 - moment of inertia X angular velocity
- Angular Motion: Movement of a body part or body in an arc about an axis of rotation.
- Angular Velocity: A measure of the speed of angular motion.
- Axis of Rotation: An imaginary line around which rotation of limb or body part occurs. Lateral (loops), Longitudinal (rolls) and Vertical (turns)
- Eccentric Force: An off-centre force which does not pass through the





center of gravity of an object.

- Moment (torque): Measure of the tendency of a body or limb to rotate about an axis of rotation. It is the product of the force and the distance to the axis of rotation.
- Moment of Inertia: A measure of the resistance of an object, body segment, or the body to angular motion.
- Momentum: The quantity of motion an object has
 - mass x linear velocity



Module 2.5 - Mental Training

In the Coach 1 Reference Manual there is an introduction to mental preparation in Section 2.5.5. In this course we will concentrate on following four aspects of mental training:

- Needs Identification
- Focus management strategies
- Stress Control and Anxiety management strategies
- Performance Improvement

While knowing and being able to apply the strategies outlined in this document will help you begin to build some basic mental skills in the athletes you coach, it is important to remember that your effectiveness in this area will be greatly affected by your desire and ability to:

- Seek to understand and appreciate the *mental state* of your athletes through regular interaction and conversation with them; as we will see in this document, the *mental state* of your athletes can be either an important contributor to, or a detractor from, successful performances.
- Plan for and make time for mental preparation in the overall training process of your athletes.

As each athlete will have different needs and will tend to show focus and anxiety problems in his/her own way. One of your key responsibilities as a coach is therefore to learn the tell-tale signs of each of the athletes you coach so that you can spot when an intervention might be needed.

2.5.1 Needs Identification

Skydivers come in a wide range of sizes, physical builds, with ages ranging from 18 to almost 80, education between grade school and a doctoral degree, from most cultures and from a wide variety of social and economic groups. Of course, both men and women participate in the sport.

The reasons joining this sport vary as widely as do the ages, ethnic origins and personal assets of the participants. Each person finds that some of their personal needs, be they emotional or technical, are satisfied through the activity of jumping out of an aircraft for fun and for competition or they would not continue in the sport.

Emotional needs can be placed into four categories:

- Achievement - the desire for personal improvement, the mastery of new skills or the pursuit of excellence
- Affiliation - the desire for warm and friendly association with others
- Sensation - the desire for sensory stimulation surrounding the sport or excitement experienced in the sport itself
- Self-direction - the desire to be in control of one's own direction, to be in charge of oneself.

The technical needs of a skydiver tend to vary depending upon their levels of experience and their personal goals in the sport.

Here are some suggested technical needs based on level of experience:

- student - skill information to achieve basic stage of self supervision
- novice - skill development activities and information to a skydiver level
- intermediate - skill development opportunities & information to a recreational level





- recreational - opportunities and information to approach the competitive level
- competitive - training and information to excel to a personal best

It is important to realize that the emotional and technical needs are closely associated. There are both novice and competitive skydivers who seek affiliation and those who seek achievement. You will probably find that at all levels of skydiving experience, there are individuals whose needs fall into each one of the four emotional needs categories.

As a coach, remember that your needs when you were at your athletes level are not necessarily theirs. One trap to avoid is in projecting the needs you had onto them. You will have to ask them what it is that they want and use the four categories above to set the context.

The following are suggestions which will help you assist your athletes to meet their needs:

- recognize the different reasons that people have for participating in sport (the 4 emotional needs)
- recognize and work with individual differences
- keep communication open
- show an interest in each athlete
- use group goal-setting and discussion sessions to obtain their opinions and views.

2.5.2 Focus Management

2.5.2.1 Attentional Control

Every athlete and coach knows that the ability to maintain attention control or the ability to concentrate on a task for its duration is a very difficult skill to learn and execute, and is one that requires regular practice. Consequently, a coach or an athlete needs to be fully aware of all the interferences, distractions, obstacles that get in the way of a successful performance, and how to control such distractions.

Athletes develop *attentional control* by learning to select and concentrate on task-relevant cues and factors, and to dismiss any irrelevant stimuli. Concentration in skydiving may be thought of as a relaxed state of being alert, allowing rapid changes in focus as the flow of the jump changes. Concentration represents a natural, relaxed state of mind that allows athletes to receive and interpret relevant information. The successful athlete does not have to strain to pay attention, and is able to narrow his or her focus to the range of *relevant* factors or stimuli at any given time during a jump.

The words *attention* and *concentration* can be used interchangeably, though researchers tend to prefer the word *attention* and practitioners tend to prefer using the word *concentration* (Weinberg and Gould, 1999).

Some important definitions are:

- **Attentional control** is the ability to concentrate, focus, and refocus.
- **Concentration** is the ability to attend to relevant (rather than irrelevant) stimuli or internal or external performance cues.
- **Focus** is the ability to concentrate in the present while performing, rather than in the future or in the past.
- **Refocus** is the ability to focus on the task again following a break in concentration.
- **Information processing** during performance needs to be either *automatic* or consciously *controlled*.



- *Automatic* refers to the athlete’s ability to process cues easily, rapidly, consistently, and economically in a manner that does not need to be deliberate. This comes with practice and experience.
- *Conscious Control* refers to the athlete’s ability to consciously process information. This is done precisely and deliberately as the athlete pays attention to the critical phases of the skill or task. A beginner or novice will use conscious control as will any athlete if the skill itself is more complex and the athlete is not yet totally familiar with the required movements.
- **Open and Closed Environments.** Skydiving is a sport which can be categorized as an Individual sport (rather than a classic team sport) practiced / played in an open rather than a closed environment.
 - A *closed environment* is one in which few changes occur (usually indoors, or in a highly controlled environment)
 - An *open environment* is one in which many changes may occur within a short period of time; usually outdoor sports or sports where there is an opponent
- **Objects of Focus.** Objects of focus, or what the athlete is focused on at any given point in time, can be internal or external, and broad or narrow (Nideffer, 1976, 1981).

	Narrow	Broad
Internal <i>Perceived internally by the athlete, usually sensations of the body/body parts or thoughts</i>	Examples: <ul style="list-style-type: none"> • Orientation of body in space • Arm/leg position • Posture • Thoughts, feelings, self-talk • Visualizing individual performance 	Examples: <ul style="list-style-type: none"> • Visualizing movements of team mates
External <i>Can be seen, heard, or touched by the athlete</i>	Examples: <ul style="list-style-type: none"> • Target • Start signal • Playing surface/terrain/water • Landing spot 	Examples: <ul style="list-style-type: none"> • Movement of team mates





- *Broad attentional focus* is directed toward perceiving and interpreting many cues simultaneously.
- *Narrow attentional focus* is directed toward perceiving and interpreting only one or two cues simultaneously.
- *Internal attentional focus* is directed inward, toward perceiving and interpreting cues that are felt or thought by the performer.
- *External attentional focus* is directed outward, toward perceiving and interpreting cues that are in the surrounding environment and can usually be seen or heard by the performer.

Recent research suggests that, *while executing the movement*, athletes should have an **external focus of attention** (Lee *et al.*, 2000 and 2001). That is, they should focus on (1) something external to their body (e.g. a target) or (2) the anticipated effect of their movements (e.g. extending legs to move forward in the air), and not too much on how the movement is being performed or on what they feel.

In order to be successful, athletes will often have to shuttle between *internal* and *external* foci, and between *broad* and *narrow* foci.

For example, during a series of random manoeuvres in the air, the skydiver may have to shift his/her attention many times in order to successfully complete the sequence:

1. Narrow, external: releasing grip from previous move
2. Broad, external: initiating movement to the next sequence
3. Broad, external: seeing the big picture as all team mates change positions
4. Narrow, external: setting up relative to the opposite partner, centre of formation
5. Narrow, external: snap look to take up grips
6. Narrow, external: returning focus view to the centre of the formation.

The Module 2.3 – Advanced Skill Teaching on Page 39 presents more of this important information on what athletes should focus on during their performance. This information may cause you to rethink the way you were taught to focus when learning a new skill or when performing a learned skill. It may also cause you to rethink some of the strategies you currently use with the athletes you coach.

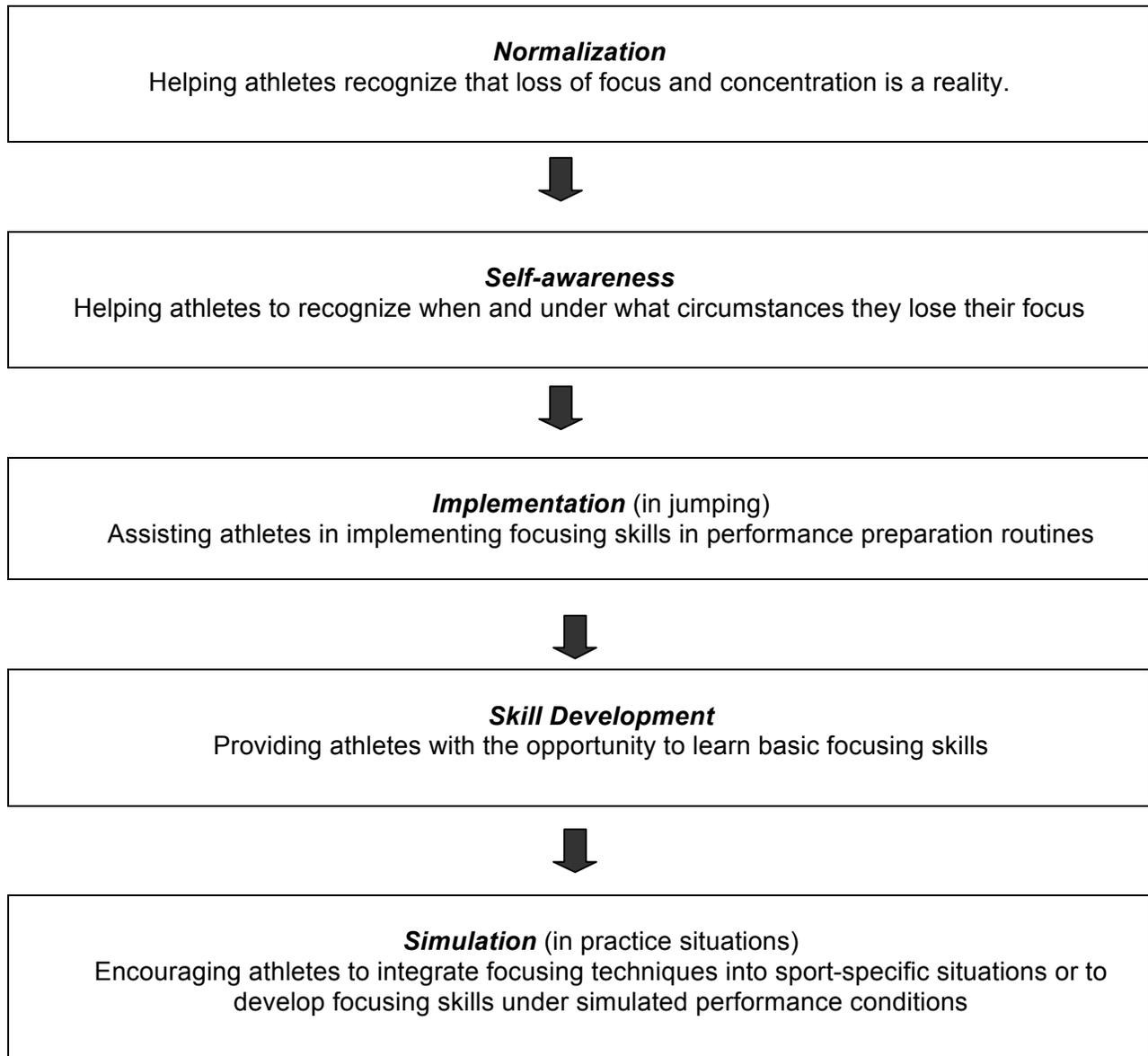
Errors often happen not because athletes are not focusing, but because they are focusing on the wrong things at the wrong time.



2.5.2.2 Methods for Improving Attention Control

a. Process for Improving Focus

Successful athletes are those who are able to minimize the effect of momentary losses in concentration. Improving focus in athletes involves the following steps:



b. Drills that improve focus

Attentional control can be developed using simple drills such as:

1. **Concentration** – learning to concentrate for a period of time on a particular object or cue.
2. **Shuttling** – learning to shuttle between *internal* and *external* focus
3. **Managing distracters** – recognizing distracters to focus, and learning to ‘tune them out.’
4. **Visualization** – Seeing yourself perform the skill
5. **Positive self-talk and Thought Stopping** – Identifying internal negative thoughts and learning how to replace them.





A series of sample activities that can be used to improve focus is presented below. Coaches and athletes often find it relatively easy to adapt these activities, and to create their own activities to improve focus.

Note: *In order to avoid lengthy descriptions, some of the activities presented in the following pages are outlined as though you were leading a group of athletes through them, while others are described as though you were an observer.*

1. Concentration

Concentrating On a Clock Face

1. Focus on the second hand of a watch or clock as it makes one complete revolution. Blink your eyes or snap your fingers every five seconds.
2. After one complete revolution of the second hand, concentrate on the sweep hand as it makes another complete revolution. This time, blink your eyes or snap your fingers every ten seconds.
3. After this second complete revolution of the sweep hand, concentrate on the second hand as it makes a third complete revolution. This time, alternate blinking your eyes and snapping your fingers at five-second intervals.

Practicing this exercise a few times a day progressively and gradually improves the ability to concentrate.

Concentrating On an Object

1. **Choose a concentration word.** For example, choose a short, soft, non-distracting word that will help you focus on an object or picture as you concentrate on it, for example, 'arch', 'legs', 'star' or 'arm.' Look at or concentrate on the object, and say your concentration word — repeating a word helps keep the mind from wandering. 'Door', 'exit', 'wing', etc.
2. **Look at the object of concentration.** Now begin to examine it visually in every detail. For example, look at the door's outline, or the strut's configuration, at its surface, the hand rail. Is it rough or smooth? Does it have seams or printing on it? Are there scratches or scuff marks? Look at its colour and the way the light and shadows fall on its surface. Do not try to stop yourself from blinking. Relax.
3. **Feel the object.** For instance, grab onto the door frame, the hand rail, or the strut; feel its texture; look around it, and look at it from various angles.
4. **Imagine the object.** Focus your mind and eyes on it. See it as fully as you can so that its smallest detail will stand out in your mind. Know the focus object. 'Marry it.' Do not try to overpower the object of your concentration. As you relax and simply keep your eye on the object, you will find that it will seem to 'come to you.' You must maintain something of a passive attitude in this process, allowing the object of your concentration to enter your mind fully and not simply be something external that you are studying. When you concentrate, you will find that this seemingly mysterious process happens quite naturally.



5. **Get the feeling.** When your concentration breaks — as it must eventually— say to yourself, ‘I have been concentrating on [the name of the object]. This is what it feels like to be concentrating. I am relaxed, I feel good, and my attention is totally focused on [the name of the object]. This is concentration.’ Look back at the object.
6. **Say the concentration word again.** Now say the concentration word to yourself. Look at the object. Concentrate.
7. **Relax.** Use the relaxation technique you are most comfortable with.

Learning to concentrate is a pre-requisite to learning to focus on internal and external cues.

Note: *This material is based on Tutko, 1976, and the exercise should take about 10 minutes.*

2. Shuttling

Shuttling (Internal – External Concentration)

1. Participants are instructed to choose a partner.
2. The person who goes first must close his/her eyes, tune in to some sensation, feeling, or thought, and say something like “Now I am aware of a pain in my leg,” “Now I am aware of my breathing,” or “Now I am feeling silly.”
3. Then, the person opens his/her eyes and says “Now I am aware of . . .,” adding something that is happening outside himself or herself. For instance, the person says “Now I am aware of the sunlight” or “Now I am aware of your eyes.”
4. Repeat the process — first an inside statement, then an outside one — for a few minutes without a break. If the person gets stuck, the partner should help out by asking “Now I am aware of . . .?”
5. The partner does the concentration exercise.
6. Later, the exercise is repeated with the eyes open all the time.

The ability to shuttle between internal and external focus is necessary in group skydiving. At times you are focused on a set of broad external cues e.g. the position of the other skydivers and how they are changing and then need to shift to a narrow external cue such as your particular place in the sky and the grip, and shift to internal focus in deciding on how and when to put yourself in the correct position.)

Note: *This exercise on shuttling is based on Syer & Connolly, 1984.*





3. Managing Distracters

Examples of Distracters

Anything that has the potential to draw attention away can be a source of distraction to an athlete.

- Other skydivers in the air
- Ambient noise
- Environmental conditions (e.g. clouds)
- Equipment concerns

It is impossible to control for all potential distracters. This is why it is so critical to help athletes learn to block out distracters, and learn how to refocus if and when they lose their focus.

Focus On the Clock Face

1. Focus on the clock face and click your fingers every 5 seconds
2. Now click your fingers at 5, 10, 15, 5, 10, 15
3. Now try to maintain your focus and the finger clicking sequence while faced with a distracting sound such as:
 - hand clapping by others around you
 - hand clapping and foot stamping by others around you (increased distractions)

Athletes rarely have the luxury of entirely controlling all elements of their environment. There are always distracters of one type or another. Most skydiving distractions occur naturally and recognizing and managing these distracters is a key to perform successfully

Note: This exercise is very similar to the “Concentration on a Clock Face” but adds distracters. The aim here is to manage these distracters and focusing on relevant cues:

4. Visualization

Visualization Exercise for Improving Focus

1. Sit back, get into a comfortable position and close your eyes.
2. Think of a particular skill in your sport.
3. Imagine yourself performing that skill.
4. Focus externally on developing a clear and detailed image of yourself performing the skill.
5. Focus internally on the sensations or feelings as you perform the skill.
6. Finally, once you have a clear image of yourself performing and feeling the skill, choose an external cue to focus on and which is associated with the outcome of the skill.

For example, choose the point where you are going to land or the pattern you will fly. As you perform the skill in your mind's eye, shift your focus to this external cue as you perform the skill.



5. Positive self-talk

Positive Self-Talk and Thought-Stopping for Improving Focus

1. Ask the athletes to 'listen' to their internal thoughts the next time they have performance-related anxiety, and to record them. Use the following headings
 - What are the thoughts?
 - Under what conditions do they typically occur?
 - How do these thoughts make you feel?

Negative thoughts (e.g. "I may miss the Pin because...") are distracters of performance that decrease one's ability to concentrate and to focus on important environmental cues.

To become aware of negative thoughts the athlete must first recognize their existence. They may be very rapid and automatic. Personal awareness of these thoughts and of their nature is very important in order to stop and replace them.





2.5.3 Stress Control and Anxiety Management Strategies

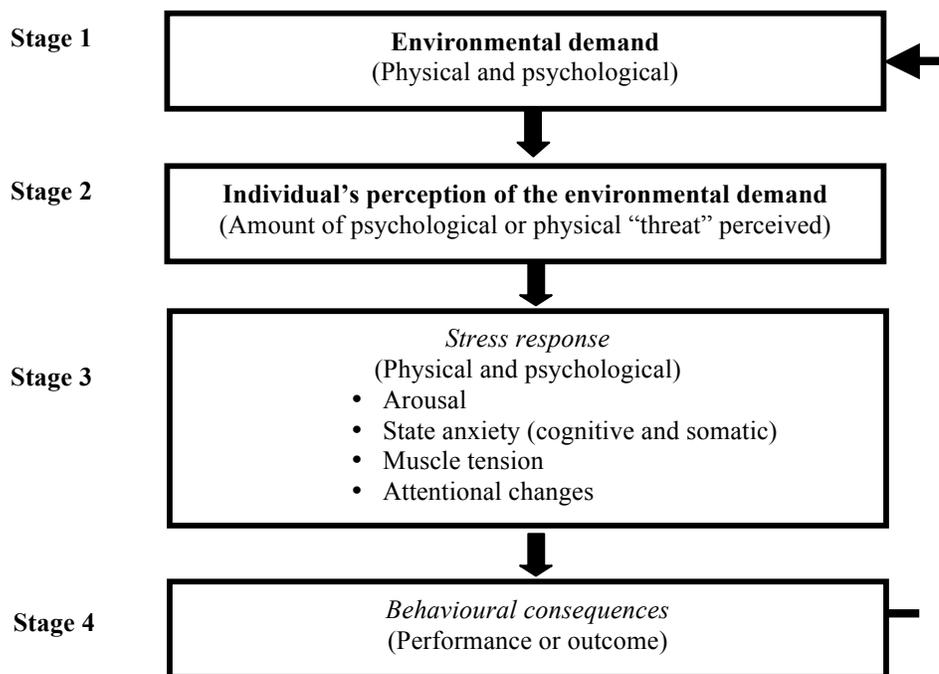
2.5.3.1 Stress and Stress Control

In this section we will discuss the development of skills that can be used to control anxiety such as breathing control, mind-to-body and body-to-mind relaxation, and visualization.

By its very nature, skydiving is a stressful activity. Stress is defined as “a substantial imbalance between demand [physical and/or psychological] and response capability, under conditions where failure to meet that demand has important consequences” (McGrath, 1970, p.20). Therefore, stress in an athlete means that he or she:

- is recognizing a challenge, and
- perceives that the challenge may not be met successfully.

McGrath (1970) illustrated the manifestation of stress in four stages as follows:



Some important definitions are:

- *Somatic or physical anxiety* is a positive or negative set of physiological responses to performance usually experienced immediately prior to the jump e.g., feelings of excitement, increased heart and breathing rates, etc.
- *Cognitive or mental anxiety* is a positive or negative response that is indicative of measures of either excitement or worry, depending on how the demands of the task are perceived e.g., feelings of certainty or apprehension, worry, self-doubt regarding performance process or outcome.
- *Trait anxiety* is a tendency to respond to a threatening situation, person, or event with high or low levels of anxiety. It is a personal character trait to be more or less anxious (apprehensive or excited).



- *State anxiety* is the feeling of apprehension or excitement subjectively perceived by the athlete in the *here and now*, i.e. at this precise moment in time and given the present situation.

Anxiety can be a pleasant or *positive* emotion reflected in the athlete's eagerness or excitement to perform well because he/she feels ready and well-prepared, and because adequate coping responses are in place to successfully meet the demands of the task. It can also be a *negative* emotion reflecting the athlete's feelings of apprehension, primarily because states of preparedness and readiness are not being experienced.

From the sport psychologists, the following principles have been formed:

- personal activation (anxiety) which is too high or too low interferes with a good performance,
- simple tasks require higher activation while complex tasks require lower activation,
- lower activation is needed for learning new skills than for performing skills already mastered,
- optimal activation is highly individual and differs from person to person

2.5.3.2 Stress in Skydiving

All skydivers experience some form of stress at different stages of their skydiving career, and anxiety is a common and natural response to such stress.

Sources of Stress in Skydiving:

- personal performance expectations
- team performance expectations
- low self-confidence
- failure in prior performance
- fear of evaluation
- interpersonal conflict
- fear of injury
- performance role
- spectator behaviour
- lack of preparation
- officiating
- or supervision

Stress and our reaction to it is twofold. On one hand, negative anxiety is often found in skydivers who dwell on things that are very difficult or impossible for them to control, or who do not feel prepared for the jump. It can also be linked to the fear of what others might think of the athlete if he/she does not perform well especially under evaluation situations. However, some skydivers, when exposed to stress, experience heightened awareness, rather than becoming overly anxious.

The connection between anxiety and sports performance

As outlined above, anxiety can be functional for performance, and facilitate appropriate thoughts or actions so the task is executed successfully, or anxiety can be dysfunctional and detract from the performance when the athlete engages in inappropriate thoughts, feelings, and behaviours. This will be further discussed in section 2.5.4.

It is important to remember that anxiety states are *normal*, and that every athlete experiences both positive anxiety (excitement) and negative anxiety (worry).



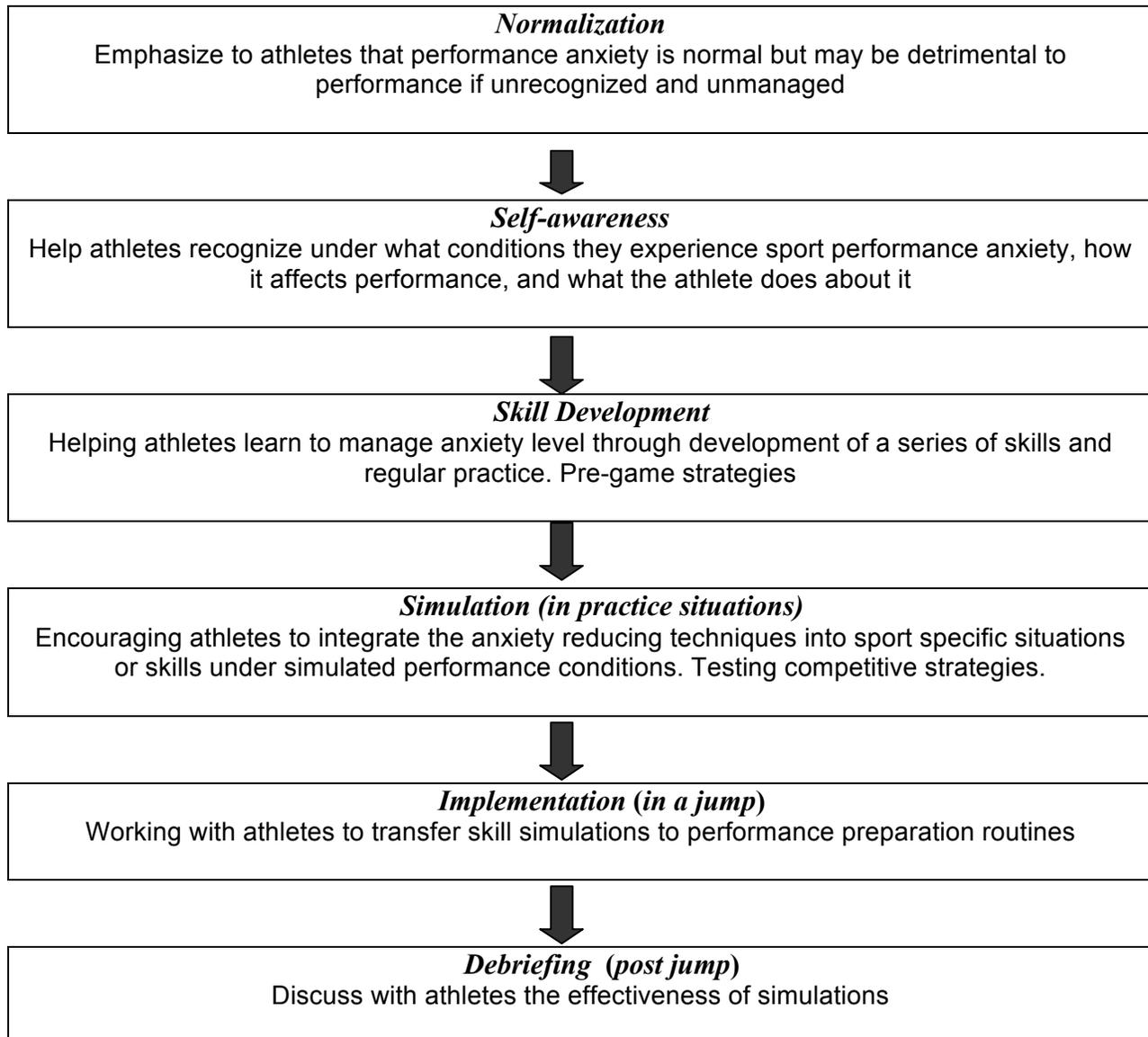


Each athlete should seek to identify and understand his/her specific causes of anxiety and the resultant consequences for performance, and should learn coping responses that will help him/her manage his/her anxiety in order to maximize performance.

2.5.3.3 Managing Anxiety through Relaxation Techniques

Process for Managing Anxiety

Helping athletes manage anxiety associated with sport performance requires a series of steps similar to those presented earlier for increasing concentration and focus. They are as follows:



This process can be implemented gradually, over the course of a series of jumps, and refined over the years.



Methods for Managing Anxiety

Note: These techniques should not be introduced in conjunction with a jump. It is recommended that your skydiver first try these techniques in a quiet situation, away from jumping activities. In such a setting, he can direct his attention to the technique and have initial success, rather than being frustrated by a lesser degree of performance with the technique because part of his attention was drawn to the circumstances of his jump.

a. Breathing control

Controlled breathing (Kinaesthetic Controlled Breathing)

1. Close your eyes.
2. *Feel* your stomach move out; keep your chest and shoulders steady.
3. Slowly inhale, feeling the increase of air in your chest and your shoulders rise.
4. Hold your breath.
5. Slowly exhale, feeling a release in tension as your shoulders and chest drop and your stomach relaxes.

Now shift to listening to your breathing.

Controlled breathing (Audio Controlled Breathing)

1. Close your eyes.
2. *Hear* yourself slowly inhale and exhale air as you breathe.
3. *Slowly* inhale.
4. *Hear* the air pass through your mouth and nose.
5. Feel the build-up of tension in your chest.
6. Slowly release the air.
7. *Hear* the sound of air passing through your nose and mouth.

Note: You are also focusing on certain cues (i.e. kinaesthetic and auditory). In other words, focus and relaxation skills are mutually dependent.

b. Relaxation Techniques

Often an athlete needs to relax quickly, and bring the body and mind under control rapidly in order to perform (e.g. to recover from a poor move in the middle of a formation skydive). Two possible methods may be used to produce a *relaxation response* – mind to body, or body to mind control. The term body-to-mind control is often referred to as **progressive relaxation**. Mind-to-body control is often used simultaneously with the concept of a **rapid relaxation response**.





Body-To-Mind Control (Progressive Relaxation)

1. Select a dim quiet room and make sure there will be no distractions or interruptions.
2. Check to see that athletes are warmly dressed, and that clothing is dry and comfortable.
3. Spread athletes around the room so that there is at least one metre between them.
4. Explain the principle behind relaxing:
 - Relaxation is important
 - Relaxation will help you rest and sleep
 - When you contract a muscle and then relax, it returns to a more relaxed state than before the contraction took place
 - Body-to-mind relaxation requires progressively contracting and relaxing your muscles to produce whole body relaxation
 - The first session will take approximately 30 minutes
5. *“Start in the anatomical position. Lie on your back with your arms at your side. Check these features:”*
 - The middle of your head is touching the mat and you are looking straight up.
 - Your shoulders are exerting pressure on the mat
 - Your buttocks are pressing equally on the mat
 - Your calves are pressing equally on the mat
 - Your heels are pressing equally on the mat

“You should be lying straight on the mat. Your spine should be straight, your thighs and calves close together and touching lightly, and your arms extended by your side with your palms facing slightly up. Check for the last time that you are straight and relaxed and that the pressure of your body parts on the mat is equal on both sides of your body. You will find this easier if you lightly close your eyes.”

You should then walk among the athletes to see that their position is correct. It is preferable that no head pillows are used and that no shoes are worn.

6. *“We are now going to do a series of exercises. Each exercise will involve a very hard contract-hold- release sequence. The hold is for a period of 4-5 seconds. Then slowly relax the body part/muscle you contracted. When you do the exercises, only contract the muscles involved in that exercise”.*
7. It is good practice to do a preliminary practice exercise involving the shoulders (often tension is present in this part of the body).
“Contract! Shrug your shoulders and progressively tighten the muscles, nothing else; three-four-five, relax slowly to your side. Feel your shoulders relax; they may tingle a little; they may feel heavy, and they may feel warm.”

8. It may be necessary to remind the athletes only to contract the muscle or body part given in the instructions.
9. Exercise routine progresses from toes to the top of the head. After the first two exercises, introduce concentrating on breathing control. By the time exercises are completed the focus should be on breathing control and total heaviness of the body.

Demonstrate the technique with shoulder contractions only to differentiate from the mind-to-body concept.



Mind-To-Body Control (Rapid Relaxation Response)

1. Select a quiet environment.
2. Get into a comfortable position, and close your eyes.
3. Low lighting or a dark area may help you as you perfect this technique
4. Concentrate fully on taking two or three deep breaths (do not hyperventilate but breath under control).
5. Become aware of your breathing. While breathing out, repeat a word or phrase, like a mantra – e.g. “slow, easy, calm, and relaxed.” Breathe in . . . out, and repeat; continue for 10 to 20 minutes.
6. Adopt a passive attitude — allow any distractions that enter the mind to pass through. Let the thoughts that arise slip through your mind like the credits at the end of a movie. They are there, but you pay little attention to them as they scroll by.
7. Allow relaxation to occur at its own pace.
8. Over time, the relaxation response will occur more quickly

c. Visualization Techniques

Visualization and imagery are terms that are often used synonymously. However, there are subtle differences. Visualization generally involves seeing the actual skilled performance or routine. Imagery is more creative and often combines an image such as a graceful swan or a powerful animal or machine, with powerful words which in themselves create images.

Visualization Exercises for Anxiety Control

1. Find a comfortable position, take two or three deep breaths and say ‘relax’ as you breathe out. Once you feel relaxed, begin the next step.
2. Now you are feeling relaxed, Imagine a place you might go when you want to get away from it all; a place that was/is special to you either as a child or adult; a place with which you associate good feelings; a place in which you feel peaceful and safe.
 - Imagine the scene in your mind – add as much detail in your mind as you can
 - Focus on the sounds you might hear in the situation you ‘see’ in your mind
 - Focus on the sensations you would experience in your body (e.g. touch)
 - Focus on the smells associated with the image in your mind

After you finish – take a few moments to write down the factors you found most easy to see, feel, smell, hear etc. and those that were most difficult. These will be the important visualization cues that you can use as you build your images in practice or rehearsal of skills.

Note that you are also training focusing skills e.g. focusing on feelings, sound etc. In fact, creative imagery and visualization also double as a focusing skill.



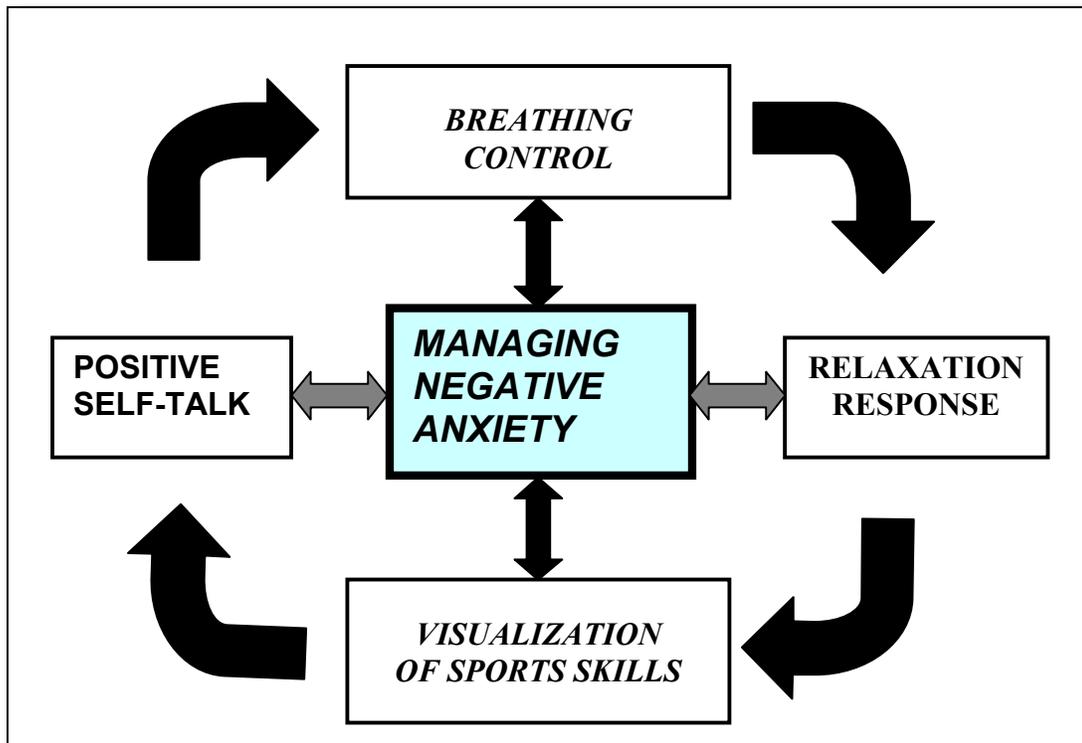


Alternative Exercise Combining Relaxation And Visualization for All the Senses

The following exercise 'gives' the participant some of the sensations such as sound, in order to help them visualize a scene.

10. Get into a comfortable position and invoke the relaxation response using the mind-to-body approach.
11. Visualize yourself sitting on a sandy beach leading to a pebbled shore; waves gently wash ashore. Ahead you can see the horizon and a rock outcrop from the cliffs on your right; seagulls fly above; feel the soft warm sand between your fingers.
12. Now add the sound of the waves.
13. Now add relaxing music.
14. Pause at each step, and have the athlete check that he/she is feeling relaxed and comfortable.

The diagram below illustrates how emotional and attention control skills are interrelated.



2.5.4 Performance Improvement

2.5.4.1. Emotional Control and Performance

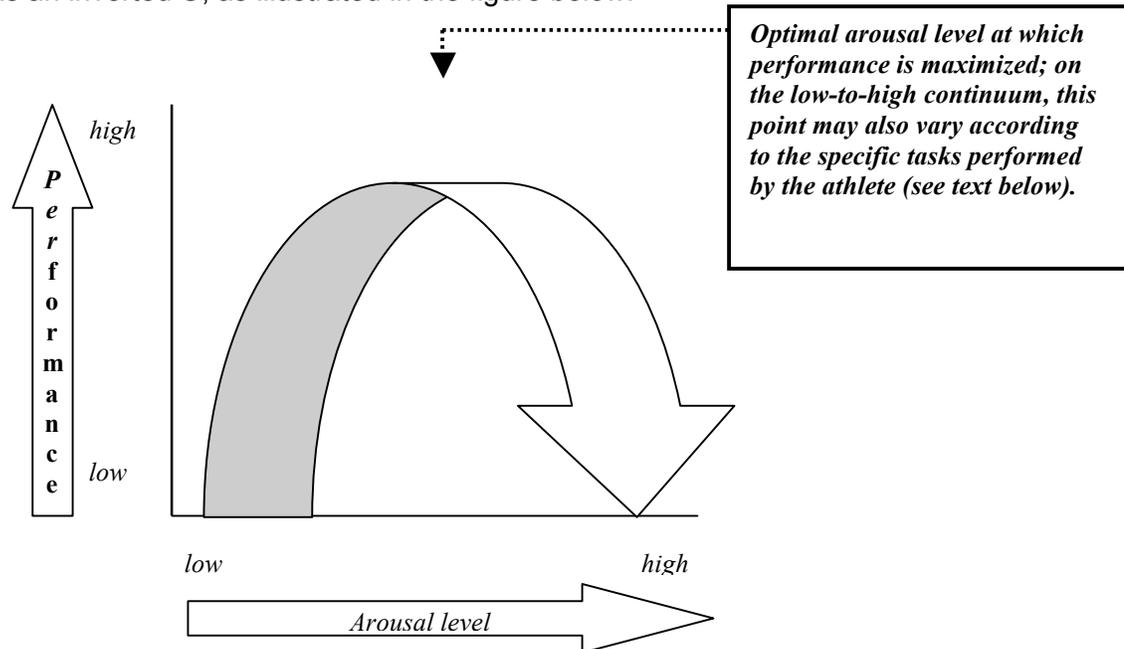
Emotions or feelings are an important component of total human functioning, and are extremely significant for team and individual sport performance (Hanin, 2000). They can provide the athlete with energy that triggers the joy and ecstasy of performance, or they can shift drastically towards despair and hopelessness when things go wrong or expectations are not met. Emotions require a stimulus (or trigger) to intensify; once the trigger is removed, the performer can usually return to a more “normal” emotional state. Athletes need to understand the causes and consequences of their dominant emotions and moods, and how to control them effectively.

The Ideal Emotional State (IES) is a condition in which the athlete experiences appropriate feelings, and maintains them at optimum levels of intensity and functioning, in a way that enhances performance. Eight important emotions have been identified in the sport domain (Lazarus, 2000). These are anxiety, anger, shame, guilt, hope, relief, happiness, and pride.

The Relationship between Arousal and Performance

Inverted U Theory

Arousal can be defined as “a general physiological and psychological activation of the organism that varies on a continuum from deep sleep to intense excitement” (Weinberg and Gould, 1999). For years, sport psychologists have described the relationship between performance and arousal as an inverted U, as illustrated in the figure below:



This figure shows that there is an *optimal arousal level* at which performance is maximized: if an athlete is not aroused enough, or inversely if he or she is too aroused, performance will likely not be as good as it might under conditions of “optimal arousal”.

This theory also suggests that, on the “low to high arousal continuum”, the point corresponding to the *optimal arousal level* may vary according to the type of task performed by the athlete or





the sport situation he or she is involved in. As a general rule, the following guidelines have been proposed to coaches and athletes:

- A *high arousal level* is usually most conducive to a successful performance if
 1. The physical demands of the task are high
 2. The conditions in which the athlete performs are relatively simple and predictable
 3. Fine motor precision is *not* critical, and
 4. Few decisions have to be made by the athlete (e.g.: launching from aircraft on exit, deploying the pilot chute).

- A *moderate arousal level* is usually most conducive to a successful performance if
 1. The physical demands of the task are moderate
 2. The conditions in which the athlete performs are complex and unpredictable
 3. Fine motor precision is important, and
 4. Decisions may have to be made quickly, (e.g.: formation skydiving manoeuvres, CF formations, group free flying, most team jumps).

- A *low arousal level* is usually most conducive to a successful performance if
 1. The physical demands of the task or situation are low
 2. The conditions in which the athlete performs are predictable
 3. Fine motor precision is critical, and
 4. Decisions do not have to be made quickly (e.g.: precision sports such as accuracy, docking onto a formation in the air).

Self Awareness and Mental Preparation

In order to become a reliable performer in any area of life, including sport, each athlete needs to be able to identify his/her ideal performance state (IPS), to identify strengths and weaknesses in comparison with his/her IPS, and to plan strategies to build on strengths and improve weaknesses. This is true for all aspects of performance, but is perhaps the hardest to do in the area of mental preparation because it demands that an athlete:

1. Understands his/her inner states (thoughts, feelings, emotions) and typical reactions;
2. Understands his/her beliefs and values;
3. Recognizes his/her uniqueness as a performer.

In other words, the application of mental training strategies is different for each athlete because each athlete is a unique person who thinks and reacts in his/her own ways. Mental skills development is therefore a life-long process, and is transferable to everyday life; it requires individual self-awareness, self-responsibility, and self-direction.

As a result, when working with individual athletes, most sport psychologists tend to begin by working with an athlete on his/her self-awareness. In other words, to be in a position to chart out “how to get to where you want to go”, you need to first know “where you are now”.

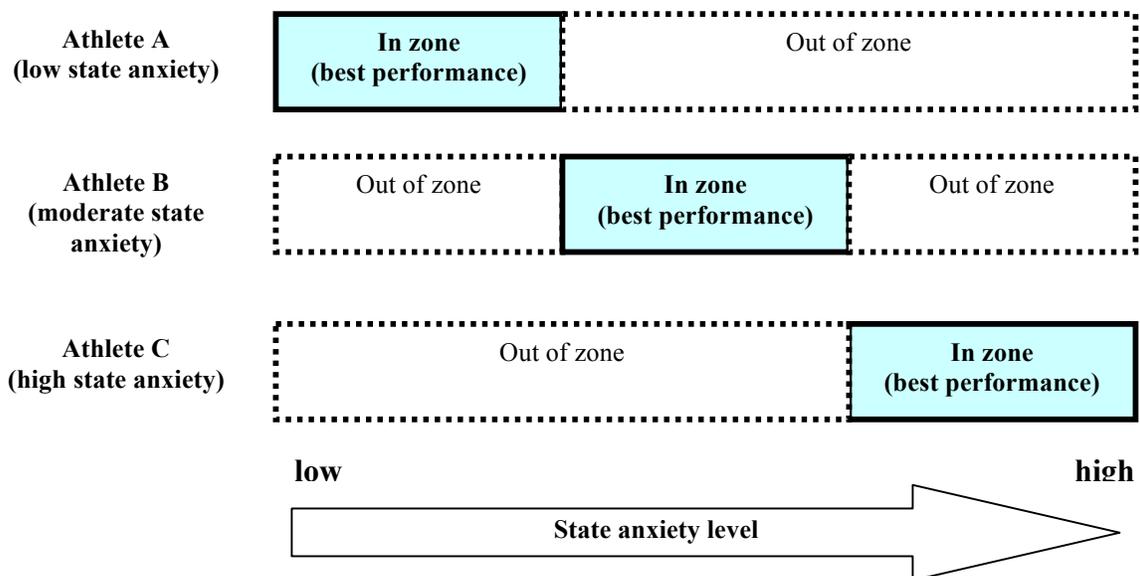


Individualized Zones of Optimal Functioning

Some sport psychologists have offered alternative views to the inverted-U theory, suggesting that athletes do not always experience optimal arousal in the middle of the arousal continuum, and according to the general guidelines discussed in the previous section concerning the nature of the task being performed. One such alternative is called the *Individualized Zones of Optimal Functioning (IZOF)*, and was proposed by Hanin (1980, 1997).

This model suggests that athletes may differ with regard to the level of *state anxiety* at which they perform best. *State anxiety* can be defined as, "moment-to-moment changes in feelings of nervousness, worry, and apprehension associated with arousal of the body" (Weinberg and Gould, 1999).

Individualized Zones of Optimal Functioning (IZOF)



There are plenty of views in the sport psychology literature with regard to arousal and anxiety, and their effects on performance. However, most sport psychologists agree on the following aspects:

- Athletes and their coaches must learn what the *ideal arousal or anxiety level* is for each athlete, and seek to create conditions that reproduce it in order to increase the probability of achieving the best possible performance.
- How an athlete *interprets* his/her arousal and anxiety levels around a jump (i.e. "it is a bad thing and I am going to fail", or "it is a good thing and I will perform better as a result") greatly influences whether his or her performance will improve or deteriorate as a result of it.





Weinberg and Gould (1999) offer the following practical guidelines regarding stress, arousal and anxiety:

1. Identify the optimal combination of arousal-related emotions needed for best performance.
2. Recognize how personal and situational factors interact to influence arousal, anxiety and performance.
3. Recognize the signs of increased arousal and anxiety in sport and exercise participants.
4. Tailor coaching and instructional practices to individuals.
5. Develop confidence in performers to help them cope with increased stress and anxiety.

2.5.4.2 Performance Improvement through Imagery and Visualization

In the Coach 1, the technique of imagery was introduced (Section 2.5.5.5, page 77). Imagery is seeing yourself perform the skill, in your mind. This concept of seeing yourself may be a little difficult for your skydiver. If this is the case, you'll have to provide a more elaborate description. In any case, you'll find out if he's seeing himself in the right way.

Individuals will visualize their actions in one of two ways:

- The first is from an external point of view; "I the observer, watch I, myself, perform the activity". This point of view is not much different from that of a third party who is just observing the action.
- The second method of visualization is from an internal view; "I the participant, see myself performing the action as I do it". This point of view is the correct point of view from which to practice imagery.

When your skydiver uses imagery to practice an exit, he should see the aircraft doorway at full size and up very close. He should see an arm, his, reach ahead of him to one side of the frame, the other reaches further outside to the strut and takes a grip. A leg swings out from below his viewpoint to place the foot on the step, and so on through the complete climb-out and launch.

If he were practicing a donut formation, he might picture the face-off as a hand, his, to the left, with a head and hand just a few inches away. A head, hands, shoulders and back are in view directly across, and to the right behind his other hand is another partial body, head and hands. The eyes all swing to look into the centre at that second, and he feels his shoulder drop to turn. Keeping his eyes directed towards the centre, he is conscious of a leg moving to his hand in front, while his lower body swings towards the head, arm and shoulder visible down his side. The body opposite is now sideways and visible for its full length, grips are complete, the shape is square, and now, everyone is moving to the next point.

Your log book and skydiving resource materials are full of images of stamp men, flat little black silhouettes that are joined at the hands, or hand to hip and such forming the various FS formations and blocks. The books on skydiving depict little figures, tucked into loops, or stretched into one or another dive. These are not the right images for mental imagery. For this, your skydiver must see himself in the action, from the point of view of performing the action. If he is doing a loop, he should see sky, ground, sky, or the reverse. If he is turning, the earth must rotate beneath him in the opposite direction.

Simulation and mental imagery

A stylist performs a simulation activity in a hanging harness, suspended in the training room or behind the hanger. The formation skydivers perform dirt dives, standing up and bent over at the waist or lying prone on creeper. A skydiver or a team climbs in and off the aircraft or mock-up



repeatedly, simulating the exit. These physical actions, to be beneficial, must be supported with accurate mental pictures as the events proceed from one successful action to another.

2.5.4.3. Visualization exercises

Combining Emotional and Attention Control And Energizing For Performance

1. Get into a comfortable position. Take three deep breaths. Now, focus on feeling and listening to your breathing every two or three breaths.
2. Invoke the relaxation response using the mind-to-body approach.
 - Focus on controlling your breathing.
 - Focus on your relaxation words e.g. "calm, easy, and relaxed."
 - Focus on repeating your "mantra".
 - Focus and Energize
3. When you are feeling relaxed and calm, imagine yourself performing your sport. You may be performing a particular move or a sequence of moves in the sky or under canopy.

As you perform:

- Focus on the **image** of your performance. Carefully add detail to the performance. Focus externally as if **watching how your body performs**.
 - Focus on the sounds you might **hear** as you perform.
 - Focus internally on getting the **"feeling"** as you perform the skill.
 - Run through your successful performance several times until you can **see and feel** it.
 - Shift your focus to an important external cue in the environment
4. As you perform the skill in your mind's eye, use a positive phrase or power word to describe the performance as you **see and feel** yourself perform successfully.
 5. Run through the skill a number of times seeing yourself perform successfully. As you perform successfully, notice the contrast in energy level from the first part to the last part of this exercise.

You will have noticed by now that skills of emotional and attention control are mutually dependent on each other. In other words, to relax one needs to focus. In order to focus it is important to relax. In order to visualize, one needs to focus and in order to focus on excellent performance, visualization is a great asset.

Summary

Throughout Section 2.5 it should have become very apparent that mental skills are mutually dependent upon one another.

- To be able to focus and concentrate on the task requires that the athlete be in control of his/her emotional state.
- Visualization requires an athlete to be focused.
- Visualization requires an athlete to be in control of his/her emotions.
- To maintain an ideal emotional state requires the athlete to think positively about his/her performance.

Integrating skills of emotional and attentional control is therefore a critical component of an effective mental training program.

If you have an interest in psychological improvement for sport participants, there are a great many books available on the subject. One of the best in terms of providing an overview of this field and excellent information about a variety of stress control techniques is "In Pursuit of





Excellence" by Dr. Terry Orlick. This book along with several others is available through the CAC Bookstore in Ottawa.



Module 3.1 - Jump Planning

This section will discuss how to do effective load organizing, briefing and debriefing, making use of the Recreational Skills Grid. Safety procedures include gear checks before exit, regular altimeter checks during the freefall, and break-off including wave, turn & track, should be performed on every jump.

See Appendix – Jump Tasks, page 133.

3.1.1 Load Organizing

Preparation

- Evaluate skill level - jumpers must be compatible in their goals.
- For what are they looking? (fun, serious, experimental, skill development, recreational, competitive, size) Set goal.
- Assess immediate readiness of jumpers. (fatigue, rushed, hang over, dehydration)
- Assess jumpers for fall rates, size and suits.
- Place more experienced jumpers in the base and difficult slots.
- Allow junior flyers to be in easy slots.
- Medium experience, heavy people in the base.
- Do dirt dives in the suits to be used.
- Leave behind sunglasses for the dirt dive so eye contact can be used.
- Use creepers in an open area to show realism.
- Personnel management during dirt dive, keep disciplined, constructive, yet maintain courteous behaviour and mutual respect.
- Prompt, organized dirt dives, 2 & 1's, 3 & 1's.
- Place yourself in a control position, able to observe the big picture and **key** the points.
- Plan B, if one, unusual situations.
- Sufficient planning and practice.
- Be a leader.
- Focus on flying with discipline and doing only their job and being aware of the big picture.
- Be fun, be safe, altitude aware.
- Reasonably challenging and progressive.
- Talk break off procedures.
- Landing procedures.
- Video / camera procedures.
- Use group leaders as necessary.
- Key to signal to dock on the base.
- Use the final approach zone concept (FAZ).
- Rehearse dive first, then back it into the aircraft.
- Final rehearsal in full equipment for colors etc.
- Allow a time for questions.
- Walk / run out bigger dives to aid realism and to create interim pictures.





In-flight

- Seating, exit order, type of exit, count.
- Intervention when necessary.
- Retain focus when necessary.
- Final practice on the aircraft if it is allowed.
- Spot or arrange for a reliable spotter.
- Spot communications, length of time, solos.
- Coordinate practice exit counts for rhythm, timing.
- Pin checks, general mutual scan, check each other and **yourself**. Also check for abnormal physical signs.
- Key points of dive before exit, hands in center, you smile and relax!

Freefall

- Observe, analyze, signals as necessary.
- Quarterback the dive, make keys clear and visible.
- Fall rate maintenance.
- Heading control.
- Follow the dive plan, know where you are going and stay mentally relaxed.
- Anticipate.
- Altitude awareness.
- Fly like a champion.

Canopy Control

- Rear riser control and avoidance techniques.
- Observe landings (pattern problems, hooks, unawareness, cross winds, S turn, brakes).
- Land where you are supposed to land.
- Watch for people not collapsing their canopies immediately after landing.

Equipment

- Ensure you have good gear that is well maintained.
- Jumpsuit selection and considerations.
- Ensure your participants are wearing proper equipment.
- Consider getting a packer.

Technical Knowledge

- Encourage equipment seminars and FS program and reading of the PIM 2B manual.
- Make sure everyone knows the correct way to improve.
- Use correct and best information and plan for the group.



Debrief

- Use video if at all possible, but encourage the group to recall accurately first.
- Emphasize the positive.
- Admit if you do not know what happened.
- Set goals for short and long term, track the progression.
- Repeat the dive if necessary / possible.
- Improve precision, not quantity.
- Be prompt, organized, productive, disciplined, etc., personnel management role, diplomacy, adult intervention techniques.
- People with lots of flying problems, pull them aside and talk to them after away from the entire group. They usually need one on one attention and will cooperate with you better this way.





Module 3.2 - Coaching the CoP Requirements

The Coach 2 has a vital role to play in the CoP system. As a Coach 2 you are allowed to verify requirements for the A and B CoP. The requirements that you may sign-off are summarized below. See also Appendix – Coach 2 and the CoPs, page 120.

Evaluating the CoP requirements

- The Coach must maintain the minimum standards – **do not sign off** a requirement unless the novice can do it correctly and within time.
- Make sure your signature and number / rating are legible – print your name as well as signing the logbook
- Clearly write out and state the requirement that is being signed off (as they appear below) in the log book entry
- If you have multiple ratings sign with the rating that is required for the task being signed off
- CoP requirements that are non-specific jump-based (e.g. emergency procedures review, completed 15-2ways since A CoP) must either be entered in a blank page on a log book or on a CSPA Endorsement card.
- Coach your novices to log with an appropriate level (lots) of detail as the logbook is a major source of requirements for the CoP's (e.g. accuracy landings, canopy manoeuvres, freefall skills)
- Provide sufficient information and training before evaluation

For the “A” and “B” requirements that the Coach 2 can verify, please refer to the latest copy of PIM 1 for up-to-date information.

To maintain integrity within the sport, the Coach must only sign off requirements that meet the Minimum Standard, performed correctly and within time.

Series vs. the Style Series

Note the PIM 2B manual has the wrong manoeuvre series – The correct one is in PIM 1

- Performed a manoeuvre series, consisting of right 360, left 360, front loop, back loop, right barrel roll, left barrel roll, in less than 16 sec.

There are four style series with variations on the directions of the turns. E.g. Reverse Cross

- Right 360, left 360, back loop, left 360, right 360, back loop

For the Novice

- Practice before they are evaluated
- Spot short – which is correct. Get out before the target
- Try to be neat and clean – better to go slow and not take the penalties
- Use the box man not a style tuck
- Rebound from first turn.
- Tension in the legs to control them
- Stop the left turn before first loop



- Reset to original heading after the loops and rolls (really helps you score it if its through binoculars)
- Wait until terminal i.e. about 12 seconds
- Use key words in the mental rehearsal
- Rolls are a problem if they don't extend their legs

3.2.1 How a series is scored:

a. Turns

Undershoots		Overshoots	
1 to 30 ⁰ (minor)	0.2 s	1 to 90 ⁰ (minor)	0.0 s
31 to 60 ⁰ (major)	0.5 s	90 to 180 ⁰ (major)	0.5 s
61 to 90 ⁰ (gross)	1.2 s	180 to 270 ⁰ (gross)	1.2 s
		Greater than 270 ⁰	16 s (Zap)

b. Loops and Rolls (all with respect to original heading)

1 to 15 ⁰	0.0 s
16 to 30 ⁰ (minor)	0.2 s
31 to 60 ⁰ (major)	0.5 s
61 to 90 ⁰ (gross)	1.2 s
Greater than 90 ⁰	16 s (Zap)

Coaching Tips

a. For Evaluation / Coach

- To view from the ground, 8000' (unless proficient)_ is tops – or can't judge with binoculars
- They must use a down wind jump run – or you break your neck
- From the ground a left turn goes right
- The heading is defined as along the wind line to the target
- Practice with a recorder and callout the moves and penalties
- Watch for the big picture
- If there is something you don't see – ask the novice, they usually tell the truth

b. For the Novice

- Practice before they are evaluated
- Spot short – which is correct. Get out before the target
- Try to be neat and clean – better to go slow and not take the penalties
- Use the box man not a style tuck (unless proficient at them)
- Rebound from first turn.
- Tension in the legs to control them
- Stop the left turn before first loop
- Reset to original heading after the loops and rolls (really helps you score it if its through binoculars)
- Wait until terminal i.e. about 12 seconds
- Use key words in the mental rehearsal
- Rolls are a problem if they don't extend their legs

NOTE: If using a Videographer, they should record from **BEHIND** and ABOVE the novice. The novice should select a fixed target on the ground horizon. Never use the videographer as a target.





Module 3.3 - Coaching Safe High Performance Landings

There is no doubt that the “High Performance” or “Swoop” landing is here to stay. We all understand that this is a high priority as a coaching issue as the number of deaths and serious injuries that occur under a “perfectly good parachute” are unacceptable. As a Coach 2 you are in an ideal position to coach novices as they transition into swoop type landings and set up a progression sequence for the novices to follow. One point of note is that, as in all things, you should not coach high performance landings beyond your personal knowledge.

See Appendix – Coaching High performance landings, Page 135 for further information.

According to statistics, the ride under canopy is the most dangerous aspects of skydiving. Roughly 50% of deaths in skydiving occur after a perfectly good canopy has been obtained (USPA, 2006).



Module 3.4 – The Coach 2 and CSPA’s Endorsements

The following can be found as either appendices or on the CSPA CWC website, <http://www.cspa.ca/cwc>

MPE – Main packing endorsement. See Appendix page 131

SCE – Sport Canopy endorsement A and B. See Appendix page 109

EPR – Emergency Procedures Review A, B and C. See Appendix page 115

EJR – Exhibition Jump Rating (Check with Drop Zone SSE)

2-Way FS Endorsement – See Appendix page 121

Group FS Endorsement – See Appendix page 123

- including how to track : See Appendix page 125





Module 4.1 - Safety in Skydiving

Leadership in Unusual Situations on the Skydive

General Considerations:

As a Coach 2 you are part of a leadership team that includes the other Coaches and Instructors, the pilots, manifest, and drop zone operator. It helps everyone if you perform at the 100% level, having your load ready, getting your novices safely back on the drop zone, and helping with every step of the jump. However situations occur when things go wrong and as a Coach 2 you will have to act accordingly, both as an individual and as part of the drop zone risk management plan.

The following section deals with potential problems and the actions that you should take as a Coach 2. The problems are discussed with reference to the five phases of the jump as outlined on the skills grid. Here we will consider safety concerns in each area of the skills grid as it specifically relates to the novice skydiver, including 2-way and group FS.

Preparation:

Make sure your novice feels comfortable about asking you for help, should they encounter a problem while working with their gear or getting ready for a jump. Take care in answering the questions, and remember to be positive about the whole experience. Gear problems may seem simple to you and it is important for you to be sensitive to the issue at hand. Ensure that gear checks have been taught and are completed prior to donning the gear and boarding the aircraft.

In-flight:

Weather Problem:

Weather can sometimes force you to alter the plan for the jump. Since jump activities are conducted under VFR flight rules, your pilot is not allowed to fly above a broken or overcast cloud ceiling. They are permitted to operate above cloud level in scattered conditions provided that he maintains horizontal and vertical separation from any clouds.

If the weather deteriorates to the extent that exiting at the planned jump altitude and spot would be a violation of VFR minimums, then a change in plan must be made. A jump below the ceiling, with your novice performing a shorter freefall, can still be done. This should only be considered where the jump can be completed safely from the altitude available. While consulting with the pilot can assist your decision, an extended discussion should be avoided.

If you decide to make the jump at a lower altitude, advise your novice of the changes in the tasks. Be conservative when you do this; for example: if you are making a freefall only 2/3 as long as the planned freefall, limit the tasks to roughly 1/2 of those planned; reduce the number of tasks rather than the number of repetitions. Deliver your information in a positive manner, highlighting things like the ease of spotting from a lower altitude or having just one task to do, rather than stressing "can't do what was planned" or "have to hurry". If, due to low cloud or high winds, the jump has to be cancelled, ensure that your novice is seated comfortably for the descent. Then share some positive thoughts with your novice about making the jump later in the day or the following day.

Equipment Problem:

Be prepared to deal with "minor" equipment issues calmly and competently. The only case where the novice would take immediate independent action to exit the aircraft is if they saw their



main or reserve parachute going out the door. Your novice should be aware that they should advise you if they see a problem with another person's gear.

Aircraft Problem:

An aircraft problem will require your novice to listen to the pilot's commands, then to follow instructions as quickly as possible. There are only two alternatives:

- prepare for an emergency landing, or
- exit from the aircraft.

For an emergency landing, get your novice into a kneeling position or if time permits sitting position, do up their seat-belt and have them tuck their head to their knees and clasp their hands behind their neck.

For an Emergency Exit you will call out: "This is an emergency! Go Reserve!" in response to which they would exit as quickly as possible. As soon as they are clear of the aircraft they will pull their reserve if the altitude is below 2500 ft (minimum). If above normal opening altitude and the problem is minor, the pilot may give you a jump run during his gliding descent; in this case your novice could exit over a safe spot and use the main.

Since some form of aircraft failure or another is a real possibility, the novice must be properly prepared. As this topic was covered on the First Jump Course possibly some time ago, a review of the subject is appropriate. Key points to cover are:

- instructions come from the pilot; no independent actions,
- below about 1,500' AGL expect to land with the aircraft,
- if asked to leave, do it promptly; activate the main or reserve as dictated by the situation,
- be ready to move but do not shift around unless told to go, and
- Opening the jump door and going on your own is a very reckless act.

In many situations, (e.g. engine fire, a control issue,) the pilot's first action may be to increase the forward speed of the aircraft (e.g. to put the fire out, enhance control). Having the door opened (and ripped off) and then having the balance of the air craft change will endanger others.

Exit Problem:

Exit problems may result from improper set-up or from making the wrong launch actions. Your novice should be able to position themselves correctly. In positioning yourself, be prepared to adjust your position to compensate for your novice.

By watching all of your novice's movements, you can anticipate the departure; let him make eye contact and cue the "Ready, set, go". Anticipate a poor or non-existent rock but ensure you do not release until their hands have released.

An Incorrect Launch is a problem that your novice must resolve themselves, without intervention from you. If the set-up was incorrect, you must be able to observe the problems. Once the launch is underway, your task is to get yourself into the airflow with your novice and position yourself to **enable** their tasks. Use a wide stance and some positive curve. Knowing that you are very solidly positioned on the air, you can stay close and observe his actions in recovering stability.





Freefall:

A stability problem can occur on exit or at any time during the freefall. Your novice's actions are the same, regardless of cause. The novice should:

- relax, and check his box position,
- emphasize the arch and spread,
- if spinning counter hard or relax to remove the spin force, and
- pull at 3,000' (or higher) whether stable or not.

From the launch, your action is to position yourself correctly in the air. If the novice becomes unstable during the launch, stay close so that you can observe the novice's actions in regaining control. Remember to keep a safe distance and stay away from above in case they decide to pull. As a Solo Certified Skydiver, they should be able to regain stability on their own. They also should be aware not to sacrifice altitude for stability so remember to not fly directly above.

A visual problem can result from breaking or losing goggles. If the goggles are broken, your novice's first action is to get the goggles off clear of their face. Proceed with the freefall exercises if possible; otherwise signal the intention to pull and then activate their main.

An instrument problem may occur if the altimeter is tilted so that your novice can't read it. In this situation they can try to fix it by reaching in to turn the altimeter towards the face. If the instrument is still not readable or is broken, the novice should look at the ground to estimate the altitude. If it is quite high (i.e. just exited the a/c), continue with the jump for a few seconds only (following the plan), then wave and pull.

A pull problem may be experienced for various reasons. The novice should:

- relax,
- attempt to locate the handle using the following methods:
 - feel for the bottom corner of the container and locate the handle,
 - over-reach under the container along the pouch and feel back toward the corner,
 - over-reach down the leg and feel up the buttock to the corner
- try again (second pull). If this does not work, look at the reserve handle and pull.

Canopy Control:

A canopy malfunction may occur for any number of reasons. Regardless of cause, your novice's actions are the same:

- Assess: check, take a deep breath,
- Think: decide (OK or Go to Reserve),
- Re-Act now!: cutaway and activate the reserve.

A canopy malfunction is any inflated shape that is not square or is not there at all.

Assess – Think --

Once your novice's main is activated, they are on their own until landing. However, if they experience a malfunction, you should watch their actions. Then you should follow your novice to the landing point and keep an eye on the cutaway main. You can help pick up the gear and walk back together, talking calmly about how well they handled the situation. Someone at the drop



zone should arrange for pick-up if you are some distance away. You could follow the main (*do not* try to catch it) if both of you can easily make a safe landing.

If your novice is injured as a result of his landing, look after him and initiate the EAP. Ensure that first aid is provided or, if required, an ambulance is called. Confirm that the gear is collected and brought back. You do not have to administer the first aid yourself, but you should ensure that a qualified person is recruited and supplied with the necessary material.

Post Jump:

A novice with the “classic” attitude problem is often difficult to deal with. These individuals have several characteristics their behaviours may include a failure to listen to what you have to say (e.g. interrupting, defending poor decisions as you try to explain things), setting unrealistic goals, and opening low consistently and then saying your opening was high, etc. It is important to identify these attitudes early and to deal with them. If an intervention is needed, sit down with the individual and discuss their problem. Identify the risks of their attitudes and explain that if their attitude continues, it will compromise their safety, and the safety of others. It is also your responsibility to mention this problem to a senior instructor/coach so that an eye can be kept on this individual.

To summarize, the procedures for unusual situations must be prepared in detail for your drop zone. It is a process that should involve not just the Chief instructor, but all of the staff, including the pilots. The actions should be practiced on some occasion, whether during your initial training as a coach or an early spring refresher or whatever. Any drop zone specific problem that you identify and is not included here should be brought to the attention of the management staff at your drop zone. Should you feel so inclined, a letter to the CSPA office, describing the situation, will help others to gain from your experience. An AIM report should be considered as well if the situation warrants it. 4.1.1 Considerations for 2-way safety

Pre-Jump

- Incorrectly assembled equipment
- Canopy size inappropriate for skill level
- No Solo CoP
- Lack of documentation
- Physical handicap
- Incorrect gear-up
- No pin check requested
- Doing too much on the jump
- Fear – over anxious
- Language problems

In flight

- Weather – change in altitude – if 2/3 altitude do ½ tasks – take tasks off the bottom
- Anxious – apply relaxation techniques
- Little idea of what they intend to do on the jump – do you want to do this
 - Equipment
 - Watch pilot chutes and handles
 - If altimeter breaks give them yours
- Aircraft
 - Less than 1500 land with plane (unless catastrophic) – related to AAD firing
 - 1500 to 2500 use reserve (really with reference to opening altitudes on the main)
 - Check ground below – are there any hills?





- Exit
 - It is their problem

Freefall

- Loss of altitude awareness
- Loss of visual contact – they should stay on heading but pull appropriately
- Can't match levels
- Collisions
- Stability problem – relax and spread (skill analysis)
- Spinning – counter
- At 3000' pull
- As a coach do not tackle and fix stability problem – not a PFF instructor
- Goggles
- Instruments
- Pull problem
 - Relax, feel for bottom of container
 - Use reserve if can not find or hard pull after 2 tries
- High pull – watch under canopy
- Low Pull – retrain and repeat – no advancement

Canopy Control

- Patterns with other canopies in the air
- Collisions
- 2 canopies out (briefed by SSI)
- Assess, Think, Act
- If they use a reserve try to land with them
- Bad spot – Can follow you
- Landing out

Equipment

- Specific things to check for
 - Reserve – Rigger does this. Practice pulling the handles on the six monthly repack
 - Main – Do you look under canopy? Look for frayed lines, small holes, pilot chute, etc on every jump, elastics on bag.
 - Harness – look for wear and tear, Velcro, flaps close, handles, dirt in cables, closing loops, take risers off once a month for webbing flexing
 - Audible altimeter / Wrist-mount Altimeter / Jumpsuit
 - AAD calibrated and on
- canopy size matches weight of jumper
- canopy size and type matches experience of jumper
- Jump Suit Selection: you should ensure that you are both dressed for success, so that levels will be as near to natural as possible in order to avoid level problems



4.1.2 Considerations for small group FS

Pre-flight

- FS endorsed
- plan a safe skydive with realistic goals – challenging but not too difficult
- skills match currency and skill level
- well stretched and hydrated
- thorough dirt dive including break off
- include exit at mock-up
- gear check takes place
- positive attitude reinforced
- jump suits / weights appropriate

In-flight

- handles check / pin check
- loading / seating considers weight and balance
- pilot briefed – especially if unusual e.g. opening high
- emergency procedures and altitudes discussed
- minimum movement
- watch for equipment problems and deal with them
- proper grips to prevent pulling handles in group exit
- watch for possible equipment hang-up during climb out
- spotter can spot – don't make it a group activity
- seat belts on
- mental rehearsal and concentration takes place in plane

Freefall

- Reactions to a funnel – Plan B (e.g. everyone re-group into a star onto the lowest person)
- loss of visual contact
- collisions and going under formations
- going low and coming back

- low break off – not able to do 7 second separation
- orbiting
- follow the plan
- have good eye contact
- final approach from level and slow
- dive to quadrants
- flat tracks in quadrants
- awareness of video flyer and the centre of formation at opening
- let go if person kicking or shaking
- what to do with unconscious skydiver
- floating or lost handles or risers
- group actions if enter clouds

Canopy control

- Opening collisions avoidance – risers.
- canopy wraps (top controls, positive commands, get big if headed towards Dacron lines or get thin if heading into micro-lines; discuss with each other; bottom cuts away first)
- flight patterns
- flying close to other canopies – turbulence
- no low turns
- staged landings
- look before you turn
- don't fly on wind line until other groups are open
- avoid obstacle and be aware of turbulence
- outs for a bad spot or poor canopy control
- Plan for a cutaway – follow jumper / equipment. NEVER try to catch the canopy
- low canopy has the right of way
- on final fly straight – no "S" ing back and forth with other traffic behind
- once one ground look around for other canopies landing

Debrief

Go through the jump and discuss and learning experiences that were related to safety





FS Safety notes for the Coach 2

- When dive planning with a novice, separate unusual situations from the normal jump. Keep unusual situations in the skill assessment or review portions at the end of the plan. Discuss the normal dive first.
- For canopy unusual situations, review the React procedure first. Analyze the reaction procedure carefully. Review the Assessment portion section. Use sensations (seeing, feeling and hearing) for assessments only and avoid technical names. Give scenarios, one from each category (high, low and those correctable). Analyze the assessment decision and time components carefully.
- Introduce technical names.
- Tell them not to tell the other novices or students the technical names as that is the Instructor's decision
- Attempts to correct certain types of malfunctions are not to be introduced to anyone before 100 jumps and on the decision of an Instructor.
- Cover all areas of the skills grid but try to keep it short and simple.
- Make sure you research your topics and deliver technical knowledge that is appropriate to the level of student or novice with whom you are dealing.



Module 4.2 - Emergency Action Plan (EAP)

An Emergency Action Plan (EAP) is a plan designed by coaches to assist them in responding to emergency situations. The idea behind having such a plan prepared in advance is that it will help you respond in a responsible and clear-headed way if an emergency occurs.

An EAP should be prepared for all drop zones

An EAP can be simple or elaborate should cover the following items:

1. Designate in advance who is in charge in the event of an emergency (this may very well be you).
2. Have a cell phone with you and make sure the battery is fully charged. If this is not possible, find out exactly where a telephone that you can use is located. Have spare change in the event you need to use a pay phone.
3. Have emergency telephone numbers posted (facility manager, fire, police, ambulance) as well as contact numbers (parents/guardians, next of kin, family doctor) for the participants.
4. Prepare directions to provide Emergency Medical Services (EMS) to enable them to reach the site as rapidly as possible. You may want to include information such as the closest major intersection, one way streets, or major landmarks.
5. Have a first aid kit accessible and properly stocked at all times (all coaches are strongly encouraged to pursue first aid training).
6. Designate in advance a “call person” (the person who makes contact with medical authorities and otherwise assists the person in charge). Be sure that your call person can give emergency vehicles precise instructions to reach your facility or site.

When an injury occurs, an EAP should be activated immediately if the injured person:

- is not breathing
- does not have a pulse
- is bleeding profusely
- has impaired consciousness
- has injured the back, neck or head
- has a visible major trauma to a limb





Emergency Action Plan Checklist

Access to telephones

- Cell phone, battery well charged
- Drop zone phone
- List of emergency phone numbers



Directions to access the site

- Accurate directions to the drop zone

Participant information

- Personal profile forms
- Emergency contacts
- Medical profiles

Personnel information

- The person in charge is identified
- The call person is identified
- Assistants (charge and call persons) are identified

- *The medical profile of each participant should be up to date and located at the manifest*
- *A first aid kit must be accessible at all times, and must be checked regularly. See the appendices for suggestions on contents for a first-aid kit.*



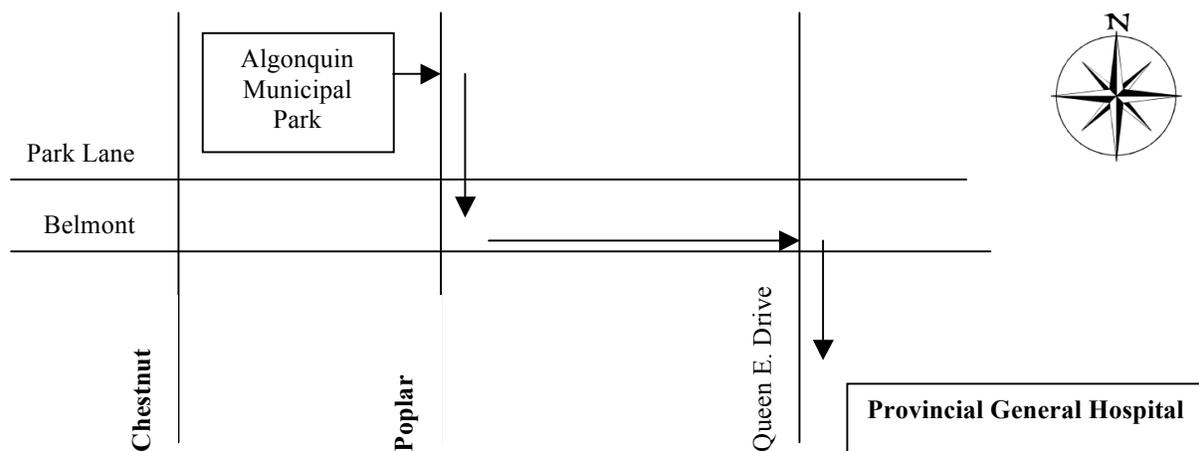
Sample Emergency Action Plan

Contact Information

Attach the medical profile for each participant and for all members of the coaching staff, as well as sufficient change to make several phone calls if necessary. The EAP should be printed two-sided, on a single sheet of paper.

Emergency phone numbers:	9-1-1 for all emergencies
Cell phone number of coach:	(xxx) xxx-xxxx
Cell phone number of assistant coach:	(xxx) xxx-xxxx
Phone number of home facility:	(xxx) xxx-xxxx
Address of home facility:	Algonquin Municipal Park 123 Ready Lane, between Set St. and Go Rd. City, Province/Territory XXX XXX
Address of nearest hospital:	Provincial General Hospital 1234 Queen Elizabeth Drive City, Province/ Territory XXX XXX
Charge person (1 st option):	Suzy Chalmers (coach)
Charge person (2 nd option):	Joey Lemieux (assistant coach)
Charge person (3 rd option):	Angela Stevens (parent, nurse, usually on site)
Call person (1 st option):	Brad MacKenzie (parent, cell xxx-xxxx)
Call person (2 nd option):	Sheila Stevens (parent, cell xxx-xxxx)
Call person (3 rd option):	Stefano Martinez (parent, cell xxx-xxxx)

Directions to Mercy General Hospital from Algonquin Municipal Park:





Sample Emergency Action Plan

Roles and Responsibilities

Charge person

- Clear the risk of further harm to the injured person by securing the area and shelter the injured person from the elements
- Protect yourself (wears gloves if he/she is in contact with body fluids such as blood)
- Assess ABCs (checks that airway is clear, breathing is present, a pulse is present, and there is no major bleeding)
- Wait by the injured person until EMS arrives and the injured person is transported
- Fill in an accident report form (AIM)

Call person

- Call for emergency help
- Provide all necessary information to dispatch (e.g. drop zone location, nature of injury, what, if any, first aid has been done)
- Clear any traffic from the entrance/access road before ambulance arrives
- Wait by the driveway entrance to the facility to direct the ambulance when it arrives
- Call the emergency contact person listed on the injured person's medical profile



Step 1: Control the environment so that no further harm occurs

- Stop all participants
- Protect yourself if you suspect bleeding (put on gloves)
- If outdoors, shelter the injured participant from the elements and from any traffic

Step 2: Do a first assessment of the situation

If the participant:

- is not breathing
- does not have a pulse
- is bleeding profusely
- has impaired consciousness
- has injured the back, neck or head
- has a visible major trauma to a limb
- Cannot move his/her arms or legs or has lost feeling in them

If the participant does not show the signs above, proceed to Step 3

Activate

EAP!

Step 3: Do a second assessment of the situation

- Gather the facts by asking the injured participant as well as anyone who witnessed the incident
- Stay with the injured participant and try to calm him/her; your tone of voice and body language are critical
- If possible, have the participant move himself/herself. Do not attempt to move an injured participant.

Step 4: Assess the injury

Have someone with first aid training complete an assessment of the injury and decide how to proceed.

If the person trained in first aid is not sure of the severity of the injury or there is no one available who has first aid training, activate EAP. If the assessor is sure the injury is minor, proceed to step 5.

Activate

EAP?

Step 5: Control the return to activity

Allow a participant to return to activity after a minor injury only if there is no:

- Swelling
- Deformity
- Continued bleeding
- Reduced range of motion
- Pain when using the injured part

Step 6: Report the injury on an accident report form (AIM) and submit it to the CSPA office immediately (< 10 days)





First-Aid Kit

A complete first-aid kit is essential. This kit must be carefully prepared in order to treat the most common injuries. Furthermore, it must be accessible to those responsible for the team. Here is a list of what a first-aid kit should contain.

Content	Use
Medical record	<ul style="list-style-type: none"> ◦ important information in case of an emergency
Disinfectants	
<ul style="list-style-type: none"> • soft antiseptic soap • antiseptic cream • antiseptic solution • peroxide 	<ul style="list-style-type: none"> ◦ all skin lesions ◦ laceration requiring cleaning before a dressing can be applied
Dressings	
<ul style="list-style-type: none"> • ocular • aseptic (sterile gauze, 50, 75, 100mm rolls) • adhesive bandages (“Band-Aid” type and butterfly closures) • elastic bandages (100 and 150mm) • triangular bandages and safety pins 	<ul style="list-style-type: none"> ◦ cover and close the eye ◦ dry compression ◦ protection of minor lesions ◦ compression ◦ multiple uses but primarily to act as an arm support in case of a fracture
Drug products and ointments	
<ul style="list-style-type: none"> • Zinc ointment • xylocaine spray 	<ul style="list-style-type: none"> ◦ scratches or blisters ◦ sore burns
Other useful items	
<ul style="list-style-type: none"> • cleaning solution for foreign bodies • scissors • tongue depressor • body temperature thermometer • chemical cold bags (if you do not have access to real ice) • plastic bags • phone number list (cell phone, pen, quarters, paper, participants’ emergency records) • tools • adhesive tape (37.5mm) 	<ul style="list-style-type: none"> ◦ dislodge foreign bodies ◦ common use ◦ multiple uses ◦ check body temperature in case of trauma ◦ for ice cubes ◦ ensure quick response ◦ minor repair of equipment ◦ support wounded joints



Module 4.3 - Risk Management and Coach Liability

In Coach 1 we discussed a coach's liability, risk management and certain legal ramifications. Coach 1 Reference Manual Module 2.7.7 – Coach Liability, pages 92 – 99. The next section considers additional risk management points.

4.3.1 - Risk Management

Risk Management: Risk management is the process of study and prevention of accidents (personal injury or property damage) that are likely to result in losses. Referring to the simplified process described in the Appendix; without the accident there would be no claim and no legal proceedings. There are three steps in a risk management process; these three steps will be discussed in sequence.

- avoid the accident
- protect yourself & the drop zone/club
- CSPA accident investigation process

How to AVOID the ACCIDENT: To accomplish this, you must begin by identifying the possible sources of an accident. This should not be an exercise of creative imagination; identify those things that are likely to happen during a one or two year activity period. For a football, skydiving, rugby or hockey club, the risk of physical injury to the participants is higher than it would be for an activity like table tennis or lawn bowling. If the activity draws spectators (e.g. a cycling race or an air show) there is always the chance that a spectator may be injured by one of the participants. Damage to personal property is a possibility for many activities; one of the participants might run into a parked car or the ball might be thrown or hit through someone's front window. Study your particular situation with a good deal of care; identify the risks for your activities.

Once you have identified the types of accidents that might occur, divide your list into those which can be prevented and those which can not. Injuries to the participant can be reduced through the use of protective equipment (e.g. helmet & clothing), through enforcement of the safety rules and regulations, and by making certain that the facilities are well maintained. It is however, not possible to prevent all injuries to participants; with most sports, the chance of an injury is just a part of the nature of the game.

Spectators can be kept behind barriers or physically separated from the activity to minimize the chance of having a participant collide with a spectator. It is not advisable to allow the spectators to have access to the activities area unless you have some form of supervision for them. Damage to property can be prevented or minimized by actions such as restricting automobiles to a parking area that is well separated from the area of activities. Protective fences in certain locations may reduce the chance of the participants extending their activities beyond the area which you have provided. You will have to invest some thought in solutions for the identified accident sources at your club.

b) PROTECT YOURSELF & THE DROP ZONE/CLUB: There are two or three ways in which you can protect yourself. Since you now know the potential sources of accidents, you can train your staff in the methods of preventing and handling those accidents which might occur and you can train the participants in skills which may help them to avoid an accident situation.

Other ways to protect you include being properly trained for the job. No matter what type of sport skills you are teaching, ensure that you are using the correct methods. This will reduce





the chances of an accident. Use the recommended equipment; make sure that the weather and other conditions are suitable for the activity.

Have an accident plan ready. You should have almost instant access to phone numbers such as the ambulance, local hospital, the police and fire departments, plus the hydro (power) company. Know where the phone is located and be sure to have change handy if no cell phone or land line is available and you have to use a pay phone.

You should be prepared to handle an accident, just in case one occurs. Make certain that you have an adequate first aid kit placed in an accessible location. Put someone in charge of keeping it filled with bandages and such; when supplies are too old, they should be discarded and replaced. A first aid box is of little or no use if its contents are too old or have all been used. Keep a first aid manual with the box of supplies; if it is a small book, it can be placed directly inside the first aid box. First aid training for your staff is available from a number of sources including the Red Cross and St. John's.

The final type of protection you will want to be sure to consider is proper insurance. There are many types of insurance which may be of interest to yourself and to your club. Depending on the particular situation, one or more types of insurance may be appropriate. Several of these are discussed under the heading Types of Insurance. You should review this list to gain some understanding of your alternatives. However, to ensure that you and your club or school are adequately insured, you must review your specific situation with professionals in that field. Discuss your concerns with a lawyer and with one or two insurance brokers. Make an effort to locate individuals who have some expertise in sport and recreational activities.

TYPES OF INSURANCE

There are many types of insurance; only those which are closely related to the needs for sport and recreational activities are identified in the following paragraphs. You are advised to consult with an insurance professional for the purpose of developing coverage suited to your specific situation.

Property Insurance: A building, whether it is a clubhouse or a school can be insured for its value and the value of its contents. This type of coverage normally includes risks such as fire, theft, vandalism. This type of policy usually will include a liability section which will cover injuries to a third party.

Accident Insurance: The cost due to bodily injury of staff members, students or participants could be included in this type of policy. It would usually be restricted to medical expenses in excess of those covered by the provincial medical care program. It might also include some amount as a payment in the event that the accident victim (staff or participant) sustained a permanent disability or loss of limb. Familiar types of accident insurance are the Blue Cross program and the Accidental Death & Dismemberment (AD&D) programs offered by many companies.

Public Liability and Property Damage: This type of coverage is usually available under the title of Comprehensive General Liability program. It is the third party coverage which protects spectators and their property from losses as a result of your activities (e.g. running into a spectator or his car). The spectator is reimbursed for his medical expenses or the damage to the car, but the participant who hit him is not covered for his own injuries under this type of policy in most circumstances.



Participant Liability: This is the coverage that would compensate the participant for his losses as a result of an accident in which he was involved. However, he will usually have to take legal action against you and the club to prove that his injury or loss was due to your actions and was not his own fault. This is different from an accident policy which would immediately pay his medical costs.

Personal Liability insurance: This coverage may be obtained by the individual through a home-owner's or tenant's property package. It will cover your legal costs and damages if someone takes action against you for negligence. It will not extend coverage to your work or professional activities in most circumstances.

Risk Assessment of an Individual Skydiver: In the Coach 1 program, you looked at the causes of accidents and the ways in which to improve the safety of each jump. In this section, you will consider the normal activities of your skydiver in terms of his individual potential to cause or experience an accident.

Think of a skydiver at your DZ right now. Ask yourself the following questions:

1. Do I consider this person to be a safe, or a dangerous, skydiver?
2. Have I observed him to take the recommended safety precautions before making each jump (e.g. equipment check)?
3. Have I observed him to regularly prepare for each jump with a briefing and rehearsal?
4. Does he seek a teacher for skills that he wishes to learn? Does he learn by trial and error?
5. Are his activities in the aircraft, in freefall and under canopy applications of recommended techniques?
6. Are any of these skills poorly executed (e.g. sloppy main activation, no track at break-off)?
7. Does he care for his equipment? How would I rate its condition? Would I use this gear myself?
8. Is he familiar with the normal and unusual procedures for the gear he is jumping? Does he routinely use other equipment, borrow gear?
9. What events has this individual experienced which might be termed close calls, incidents, malfunctions and accidents?
10. Is there a pattern or message in these answers? What is my assessment of this person's accident potential?

By now you may have some advice for this individual in terms of the way he skydives. You can complete the same series of questions for any of the novice or experienced people at your DZ.

Once the assessment is completed, you can encourage the individual to adopt actions and develop habits that decrease his potential to have an accident. You'll want to discourage him from those which increase the chances of an accident.

Remember as you do this that no technique or piece of equipment is exempt from failing at one time or another. It is a matter of recommending those with the lowest potential for failure, while discouraging those that have a known higher rate of failure. Consider that failures in terms of parachuting are measured not on a scale of one in ten or one in a hundred, but of once in a thousand, or ten thousand or a million.

Your skydiver might be convinced that his actions are safe because he has used the same technique or gear for a few dozen or a few hundred jumps. Relative to the total number of





jumps made and the total experience of hundreds of thousands of jumps using those techniques and equipment, his experience is not sufficient to change the relative factor of reliability between two options. Other jumpers doing the same thing eventually encountered problems, some of them quite serious. He can either gain from them, or continue the trial until his error becomes evident. Provide him the information, and then let him make the choice.

c) CSPA accident investigation process

5. Accident, Incident and Malfunction Reporting (AIM): This investigation is an ongoing voluntary process on the part of the members and officers of the Canadian Sport Parachuting Association in an effort to monitor and improve the level of safety in the sport of parachuting. Accident reports are confidential to the Association; their distribution is restricted to the Investigating Officer, the Board of Directors and the Technical Training & Safety Committee.

By CSPA's definition an accident is an incident or malfunction that results in serious injury or death in said incident the CSPA has no legal authority to gather and retain physical evidence. Nor does CSPA have the authority to require statements or detain witnesses. It is important for CSPA members, coaches and instructor to understand that they should consider contacting the police immediately if any life threatening injury occurs. They must leave all gear at the accident site and they should also identify all individuals whose testimony may be connected to the issue and to separate those individuals. To do any thing less may be considered tampering with evidence (gathering gear) or collusion (allowing the witness to talk). CSPA's AIM reporting is secondary to ANY and investigation by a peace officer.

a) Primary Investigation: Complete AIM Form (F109). This should be completed as quickly as possible after the event without compromising any police officer's investigation. Restrict the comments to statement of the facts, avoiding assumption.

1. Personal Data: Name, address, age, experience, etc.
2. Equipment Data: Specifics of all equipment, including protective clothing.
3. Details of event: Activities (planned and actual), data, time, weather conditions, other participants, pilot, including individual statement.
4. Background information such as previous experience, prior training.
5. Summary: List the know facts in sequence of the event, avoiding conjecture and placement of fault.

Is further reporting or inquiry warranted? The assistance of CSPA's TSC (Technical Safety Committee) may be obtained by requesting secondary investigation in the space adjacent to the Investigating Officer's signature.

b) Secondary Investigation: This level of investigation is carried out in the event of a serious or fatal accident and on request from the Drop Zone or the involved individual.

1. Collect statements from witness: Those in aircraft, on ground, pilot and friends (Note - Ask for observation, do not encourage speculation as to the cause of accident.).
2. Interview the individual (if possible) for statement.
3. Take photos of the site and equipment in an undisturbed condition if possible.
4. Obtain statement/background from DZ Instructors, Staff, experienced jumpers.
5. Contact family to obtain their comments and questions.
6. Prepare a report for review/comment by CSPA'ST&SC. The report should be restricted to detailed description of the equipment and events and a summary of the facts. Individual statements, copies of documents, equipment inspection reports and



equipment service records should be included as appendices. Personal comments and conjecture, if any, should be submitted on a separate page.

7. Contact the Chairman-T&SC or Chairman-CWC or a BoD member for assistance and to arrange for an impartial investigation where necessary.

4.3.2 – Coach Liability and the Legal Process

The legal process which affects you as a volunteer coaching or organizing recreation and fitness activities is known as Civil Litigation. The following information is intended as a very simplified explanation of the sequence of events from start to the court's resolution of the matter.

The five major steps within the process are these:

- the accident
- Statements of Claim & Defence
- Discovery of relevant facts
- Trial
- Judgement

The Accident: An injury to a person or damage to property is the source for a civil lawsuit. If a person is injured, he/she may incur medical expenses as well as losing the opportunity to earn income for some period of time. If property is damaged, there will be costs connected with the repair or replacement of that property. The individual (victim) who incurs these costs, or the victim's family, may consider that these costs should be paid by those who caused the injury or damage. If this is the case, the victim or family must register their intent to proceed with legal action with the courts within a time period set by the province. This period varies from one to three years.

Statement of Claim: This is the document in which the victim or Plaintiff sets out the date, location, time and description of the events of the accident. The Claim identifies those who were responsible for the activity during which the accident occurred; it states what their roles and responsibilities should have been and where in this situation these were not properly fulfilled. The Claim must be filed with the Court prior to the deadlines set by the province based from the date of the accident; the period may be as much as six years. After filing the Claim with the Courts, copies will be delivered to the individuals and organizations named as Defendants.

Presuming that you were involved as a coach or organizer in the activity when the accident took place, you will receive a copy of the Claim; you will be asked to acknowledge receipt. It may be several weeks after filing of the Claim when you receive your copy.

Statement of Defence: This is a document in which you state your intention to defend the action. In reply to the statements made in the claim, your Statement of Defence will present key items from your point of view. There is a limited period of time in which the statement of defence must be filed. You, with your lawyer may file a statement on your own behalf or you may, with the other Defendants, wish to present a collective Statement of Defence.

Discovery: This is a combination of activities which are directed at collecting the facts and evidence which will be relevant to the case. Hearing for Discovery is a series of interviews, one for each defendant and one for each plaintiff; each is questioned by the lawyers for the other





party while being advised by his/her own lawyer. Each person's version of the events is reviewed prior to the trial. A Discovery may look at the medical aspects of an injury case, reviewing the treatment and the current extent of injuries or disability. A Discovery may consider the facilities at which an accident took place, re-establishing how they looked years before, when the accident took place. Discovery may also review the records or paperwork which was kept by the club or school relating to the recreational activity.

At the same time, organizations such as the national sport association may be asked to reply to a list of questions directed at regulations, recommended facilities, qualifications of coaches and organizers for the type of activity which is concerned for the accident.

Based on the evidence which has been collected the people concerned, with their lawyers and insurance companies, will make a decision to drop the action, settle out of court or go to trial.

The Trial: This part of the process should be quite well understood. Each party in turn presents their case, beginning with the plaintiff. This is followed by the defendants together or each in turn. Each case is presented through the answers to questions or testimony of witnesses. The testimony given by witnesses to the Plaintiff's lawyers is cross-examined by the Defence lawyers and vice versa. Discrepancies between statements made during discovery and those made at trial will be highlighted by the lawyers for the opposition. After all the witnesses have presented their evidence, experts may be called to venture their opinions about the evidence. Following this, the lawyers will present legal arguments to the Judge, identifying cases from the past in which with similar circumstances, the laws were interpreted in a way which is advantageous to their side of the case.

The Judgement: The decision is now in the hands of the Judge or Jury. It is their responsibility to determine the amount (if any) which each party contributed to causing the accident. If the defendants had in fact done everything in their ability to conduct a safe program, the Judge should find them not responsible for the costs to the plaintiff. In most circumstances, the Plaintiff will be found to be at least partially responsible (e.g. 40%), one or more defendants may be found not to be involved (i.e. 0%), while the remainder of the responsibility is assessed to the defendants who were found to be responsible (e.g. 60%).

The time period between the accident and trial and Judge's decision can be many years. Civil litigation is a lengthy and expensive process.



Module 5.1 to 5.6: Technical Information

Technical information on the following topics can be found in the referred PIM 2B (v.1994).

- Model for group exits: Reference 3.14.1
- The box position: Reference 4.14.1
- Model for Turn Types: Reference 4.14.3
- Model for Group Freefall: Reference 4.14.4
- Maintenance of Fall rate: Reference 4.14.6
- Model for Accuracy approach through Angle Control: Reference 5.15.1





Section C) Conduct a Safe Skydive

Module 6.1 - 1:1 Coach Jumps

6.1.1 – Review of Coach 1

Coach vs. Instructor Overall Role

- Coach refines the novice
- Instructor teaches new / survival skills

Goal Setting: Characteristics of Goals (SMART)

- Specific
- Measurable
- Achievable
- Relevant
- *Time-bound*

Short Term - specific / immediate

1. State and describe the performance
2. Describe the end result
3. State the conditions of performance
4. State the Standard / criteria for pass

Identification of Goals

1. Identify current skill level (where now?)
2. Identify long term goal (where going?)
3. Identify next 2 - 3 steps towards the long term goal (how to get there?)

Teaching Process P-PAF

- Prepare - parts, practice, skill analysis, views, training aids, technical knowledge
- Present - WPW, no negatives, no theory
- Apply - PPW, giving feedback
- Feedback - positive, specific, immediate

Skill Analysis

Pre-Observation Plan

- Know where you want to look ahead of time.

Observation Plan

- Hips and Extremities plus special areas, remember by using cue words

Pre-Analyzing

- Correct version of skill
- Results of jump
- External factors
- Skill Analysis Principles

Analyzing: Check the following

- Start position, Initiation, Glide, Recovery, End position
- Whole - part - whole
- Timing / coordination of movements
- Apply the principles and identify three items done well and three to improve (for the debrief)

Principles of Skill Analysis (first four)

1. Stability
2. Summation of Joint Forces
3. Continuity of Joint Forces
4. Impulse

Debrief Format

1. Novice's version of the complete jump
2. Coach's complete version and analysis
3. Three items done well, three items to improve
4. Reset the goal, next jump
5. Check log book entry
6. Improvement practice or show next jump

Five Phases of the Jump

- Preparation
- Equipment
- In-flight
- Freefall
- Canopy
- Plus Technical Knowledge



6.1.2 – Coach 2 Role on the Novice’s Jump

The following are some statements which present, in summary, the type of leadership which you must provide during the phases of each skydive as per the Skills Grid. In the paragraphs that follow, these statements are supported with additional information for each phase.

- Planning: direct goal setting; provide good pre-jump presentations and practice of the appropriate skills for the next skydive.
- Preparation: Observe the novice’s physical rehearsal, relaxation techniques, mental preparation, warm-up, and concentration
- Equipment/Technical Knowledge: assist the novice in acquiring equipment and technical knowledge skills
- In-flight: work with the pilot and other skydivers to complete the flight while ensuring your novice applies in-flight skills and prepare for their skydive.
- Freefall/Canopy: observe your novice’s demonstration of their skills.
- Post jump: provide feedback and direction that will aid the learning of the attempted skills and acquisition of new skills.

Planning Phase:

As a coach, your first task is to get to know your novice. After introducing yourself, determine the novice’s skills by asking a few questions about previous jumps, looking at the logbook, talking to previous instructors or coaches, and perhaps having your novice demonstrate an exit or the last skill performed. From the information you collect and a quick review of the tasks in the progression program, you will identify the skills which you would like to see performed; You should choose at least one required skill for each phase of the jump.

Teaching the new skills is the next step. Give the novice a short break while you prepare for the lesson. This is usually a good time to review your manual and notes; check with the senior person (coach, instructor or drop zone operator) if you are unsure of any details. Gather your training aids and then teach the new skills. Ensure that you review previously taught skills for other phases of the skydive. This is much more professional than “teaching by the seat of your pants”

Together, practice the jump until your novice is completing his tasks without prompting or major errors. The final practice or two should be completed with gear on, including helmet and goggles; your novice should lead the practice, talking about what he is doing for each step. You can help the novice to keep focused on the actions and the general sensations that will be experienced. Here is also a chance to review the skills from the preparation phase of the grid: physical rehearsal, relaxation techniques, mental preparation, warm-up, and concentration

In-flight:

Your tasks during the climb to altitude will be affected by the seating arrangement used at your drop zone and by the composition of the load. Look at the seating possibilities; compare benefits against difficulties for each arrangement. If there is another coach or instructor on the load, sharing or division of responsibilities is needed.

Here is the list of activities which you must monitor, share or perform. Remember that the novice is quite capable of jumping on their own. A key word to remember is monitor.

- pilot briefing: altitude, jump run, spot, other passes
- equipment checks before boarding
- load the aircraft: load sheet, tickets
- proper positioning in the aircraft
- during the climb: watch the winds, cloud conditions, observe in-flight skills





- verbal review/relaxation activities with novice, positive dialogue
- pin and handles check before jump run; also mental rehearsal
- check the spot as the novice spots.
- follow the novice out observing his setup and launch

For the exit, ensure enough time is given for the novice to get set up correctly. The key to a successful jump is a relaxed and controlled exit. Take a few extra seconds to achieve this. Be ready to launch as quickly as possible. Watch the novice's actions as you both move into position. Make eye contact, give a nod and smile that everything is ok, (you are ready). After the nod, your novice will rock forward then step back from the aircraft as trained. As you see separation from the plane, launch from the aircraft in a wide stance on the airflow, beginning to adjust your position for any incorrect actions by your novice, and then set up in your observation position.

Freefall:

The observation position for the Coach 2 is achieved by setting up directly in front of your novice approximately 5 metres out and on level. For the Solo skydiver you will have to compensate for major to minor level differences. For the A-CoP holder, it is they who should be achieving level with the coach.

Once in your observation position, watch your novice's actions as he is applying the information from your earlier teaching presentations. Observe:

- correct body position- freefall activities: correct actions
- recognition and response to signals
- altitude awareness: watch for altimeter checks

At the same time you will be:

- monitoring
- A key word here is anticipate.
- looking after your own safety

It is imperative that you track away from the novice before activating your parachute. Your novice already knows how to pull, therefore at 4,000 ft the coach should TRACK. Once open, check the canopy opening altitude of your novice.

Note: Unlike the Coach 1 who is an observer, you are a participant in this skydive. However, it is not your responsibility to indicate break off altitude to the novice or solve any unusual situations. However, you should be prepared to react to unusual situations (e.g. collision, aggressive approach, re-setting in front of a student).

Canopy Descent Phase:

After you have located the novice canopy, observe any problems and skills that are being practiced. Fly a pattern approach to the landing area and after landing watch your novice's final approach (as you will generally land first). If coaching from the ground, you can easily observe your novice's final approach and landing technique.

Post Jump:

Mentally review the jump noting points for the debrief while descending, while you wait for your novice to land, while walking back to the packing area and while packing, then write your ideas down. Ensure that your novice has a few quiet minutes to collect his/her thoughts about the jump before you begin the post-jump debriefing.



It is important to assess the novice's memories and recall and views of the performance. Ask lots of questions, prompt the novice to remember as much detail as possible. Use more questioning and less telling from you. Let the novice talk about their experience, getting more data from them before coaching them. Get their experiences and perceptions of what is happening. It is about perceiving rather than telling. The feedback you give should support the novice's own memories of the jump; it should emphasize what was done correctly and it should identify only a limited number of "errors", with the emphasis placed on how to do it right next jump. Try to get at the root cause of an issue: what actually caused the action happen? This can only come through good questioning; ask questions, dig deeper for information; what were they thinking, what was on their mind so as to discover the reason why they did what they did; less so about *what* they did, but *why* they did it. What is the rationale?

Avoid detailed analysis, extended discussions, or lengthy explanations of how it was wrong. The key is to be positive, and show correct actions rather than dealing in negatives. Identify any skills that still need refining and indicate any new skills which will have to be learned before the next jump. (See 2.4, Skill Analysis and the Principles of Movement, page 45)

The task of filling in the logbook and making appropriate entries in the Drop zone's training record is shared with your novice. Ensure that the logbook entry contains objective information about the jump and the quality of each of the skills. In this way you help yourself or the next coach who works with this novice. If items are required for licensing purposes, ensure that they are properly filled out and witnessed, specifying in the logbook that they have achieved a satisfactory level for the required CoP skill.

Equipment Skills:

Ensure that each equipment skill is taught in a professional manner so that your novice can develop his skills correctly. When he is working with his gear, watch how it is treated. See that the skills are applied as you have presented them.

Technical Knowledge:

While the actual skydiving skills are your main concern, do not ignore the reference material that is available to your novice, primarily PIM 2A but also PIM 1, and PIM 2B. During those times when you are waiting for manifest to call your load, for the winds to drop, or the clouds to clear off, get out your Skydiving Manuals. Go over a sub-section or two with your novice, or a small group of novices. Do not be afraid to get a group of three or four together in the classroom to talk about landings, free fall manoeuvres, or the theoretical model of freefall control or canopy flight. Direct your novices to read the relevant sections in the PIM's, when they have time.





6.1.3 - Warm-ups, Stretching, Physiological Skills, Nutrition and Hydration

Athlete Preparation:

This section deals with the preparation of the individual skydiver or skydiving athlete, whether he novice or expert. The information is arranged under the following headings:

1. Physiological Preparation
2. Psychological Preparation
3. Technical Preparation
4. Tactical Preparation

1. Physiological Preparation: In this section, you can find information about developing the physical abilities of your novices and skydiving athletes. Your contact with the individual may be over a sufficiently long period of time that you will have the opportunity to help him improve his physical abilities. It is arranged under the following headings:

- Energy Systems
- Performance Factors
- Injury Prevention, Care & Recovery
- Nutrition for Altitude
- Warm-up Exercises

Energy Systems: You should have a good understanding of the 3 energy systems at this stage in your coaching. These are anaerobic alactic and lactic, and aerobic. While the energy demands of a single jump are not taxing to any of these systems, a full day of jumping or the demands for training and competition are significant. For these reasons, it is important that the skydiver be fit. The skydiver can benefit from development of all three energy systems. However, the anaerobic alactic and aerobic are the more important the three. There is some benefit to both of the anaerobic systems from development of the aerobic system; therefore this is the system which should receive initial attention. Refer to the Coaching Theory manuals (1 & 2) for information on the parameters for improving the energy systems.

Unlike some sports (e.g. track, squash, skiing), repeated performance of the activities of parachuting will not result in significant improvement in the skydiver's energy systems. It is necessary to select and maintain a regular involvement in other activities to develop these systems. Help your skydivers to select activities which they enjoy. They will only continue with their training on the long term if they enjoy what they are doing. Running, distance swimming and cycling are excellent for building endurance; its likely to be a brief interlude of development, unless your skydivers enjoy the activity they've chosen.

Some activities are done only for their value in improving the energy systems, things like distance running and wind sprints. Others can contribute to an individuals fitness and also assist in the development of physical performance factors (next section) such as strength, balance, etc. Given that an individuals has a limited amount of time to invest in his "ground training" of his body for his skydiving, the selected activity should be one which provides the most needed type(s) of development. If an individual needs to develop his energy systems only, recommend that type of activity. If overall physical development, energy and performance



factors, is more appropriate, select an activity with this in mind.

The Performance Factors, as identified in the Coach 1, are listed below:

- strength
- power
- agility
- speed
- balance
- flexibility

All of these factors are important for your skydiver. Strength is needed for various exits, freefall positions and controlling the canopy. Flexibility is needed both in the aircraft and to achieve many of the freefall positions. Power, agility and balance are also required in many circumstances including exits, and freefall actions. All of these factors can be developed by performing many parachute jumps. However, this is an expensive method of developing them. Since they can be improved by activities on the ground at much less expense, this later method is recommended.

As his coach, evaluate your skydiver's level of development for each performance factor. Select the factor or two which are most limiting to this individual's skydiving performance; it may be any of the six. Advise him of the ways to improve this/these factor(s) and of the benefits from this improvement. Then proceed with the activities to develop the appropriate factor(s).

Both strength and power can be developed through weight training, swimming and other high strength activities. The stretching exercises identified below, those in the appendix, and those found in most coaching publications will all help to develop your skydiver's flexibility. This is true, provided that one follows a stretching routine on a regular schedule, at least every second day.

Balance, agility and speed are developed through participation in action type sports such as board sailing, squash, gymnastics, and volleyball. Not all of these have to be done away from the drop zone. Games such as hockey and skills like juggling help to improve these factors; practice these games yourself and get the skydivers at your DZ involved when you are not jumping. These and other sports will help your skydiver to improve both his performance factors and some of the mental skills needed for to be a better skydiving athlete. Help him to select one or two appropriate activities and perhaps invite him to join you in some of your other sport activities.

Injury Prevention Care & Recovery: In both this manual and the Coach 1, safety has been discussed in the Leadership & Management section of Coaching Techniques. The reasons for this should be obvious; the coach has a significant role in ensuring a safe environment for his skydivers and in helping each skydiver to develop habits and routines which contribute to his personal safety and that of fellow jumpers. There is an element of prevention which is related to the physical preparation of the individual. As an added reason for improving fitness, it is certain that a skydiver who is in shape has less chance of sustaining an injury than an individual who is not in condition, where the severity of the blow or impact is equal. It is a good idea to recommend that your skydivers obtain a physical examination at least every second year.

For skydiving, weight control is a very important element in injury prevention. If one of your skydivers is overweight, you should advise him of his greater potential for injury during openings and landing because of his greater weight; its effects are multiplied due to





the rapid deceleration of opening and the shock during landing.

Once an injury occurs it is a medical and physical matter for the care and recovery. Injuries can affect either bone or soft tissue or both. There are two degrees of injury: minor and serious. For minor injuries such as small cuts, scrapes and bruises, it may not be necessary to consult a doctor, for sprains, dislocations and more serious injuries, it is definitely necessary to obtain medical care. As first aid treatment and supplies are discussed elsewhere, the only note here is that you should be familiar with the processes for common skydiving injuries.

Following an injury, it is necessary to allow the bone or tissue to heal before resuming jump activities. To assess whether or not the healing is complete, evaluate the range of motion and strength of the affected area. Test for the absence of pain as a good indicator of complete healing. For soft tissue injuries such as a sprained ankle or dislocated shoulder, it is advisable to have your skydiver request and follow an appropriate physiotherapy program. These are available at most sports medicine clinics, hospitals and medical specialists. Advise him also to take advantage of the facilities at the local gym, pool or such, for exercise activities designed to strengthen the affected area.

Once an area of the body has been injured, such as the ankle, it is possible that a repeat injury will occur to that same area during the continuation of similar jump activities. Hence, you should advise your skydiver of the very real probability of re-injury. Advise that he follow a development or strengthening program for that particular area so that during continued skydiving the once injured area is stronger than it was prior to the accident. While this is not always possible, an effort toward this objective will minimize the chance of having the injury re-occur.

Nutrition for Altitude: Parachuting or skydiving as an activity does not require to body to use large muscles for extended periods which would consume large amounts of fuel. It is an activity which takes place in an environment in which the body faces a greater degree of physical stress. The factors which provide the stress are:

- cold temperatures
- reduced level of oxygen in the blood stream
- evolved gases
- lower level of humidity.

The body consumes energy to keep itself warm when the exterior temperature is significantly lower. Since the air temperature at 10,000 feet is approximately minus 5°, it can be said that the body expends energy to keep itself warm during virtually all ascents to jump altitude. It must also keep itself warm during and after the freefall, although the descent time is relatively short by comparison with the aircraft ride. During a jump day, the body must take on supplies of food, to replace that used in keeping the body warm. The more jumps made and the longer the time spent in a cold environment, the greater the quantity of food which must be consumed.

Oxygen, or the lack of it, is also a consideration. At sea level or within a few thousand feet above sea level, the proportion of red blood cells (haemoglobin) that are saturated with oxygen is 95% or slightly higher. At 5,000 feet asl, this saturation ratio begins to decline significantly. At 10,000' asl, the saturation level is 90%, and at 15,000' it is approximately 82%. Since the process of lowering the level of oxygen saturation in the blood takes time, it



can be said that the body's performance will begin to deteriorate at approximately 10,000 asl, after an exposure time of 20 to 30 minutes.

It is important for the individual skydiver to be acquainted with the effects of diminished levels of oxygen to the body. These are decreased sharpness of vision, diminished brain function, and with a significant reduction, muscular spasms and unconsciousness. Your skydivers should be advised to adopt nutritional habits which will support healthy development of the blood, especially a high level of red blood cell development. Should an individual be aware that he has a low level of red blood cells, he should be cautioned against making numerous jumps from higher altitudes.

The atmospheric pressure decreases as the aircraft climbs to higher altitudes. This allows gases which were held in solution in bodily fluids to be released. These are evident as in the release of gases from the digestive system, sometimes creating an unpleasant odour in the plane during the climb. Some foods are gas producing for one individual, while they do not have any effect on another person. It is important for each individual to watch his body's reaction to various foods and altitude, thereby determining which is gas producing. Gas producing foods should be avoided prior to and during jump activities. Some common examples are: baked beans, corn, sauerkraut, beer. While on most occasions, evolved gases can be released or passed, but on occasion, they can be trapped, resulting in cramps and pain. While these gases are sometime the cause for humour, their presence is not always welcomed or pleasant.

Since nutrition might be said to include all those things which are consumed, a word about dangerous items in one's diet may be appropriate. These fall under the headings of: drugs, smoking and alcohol. Each one of these has an increased effect as body and brain functions are diminished. Smoking directly affects the level of blood oxygen saturation. The carbon monoxide contained in the smoke joins with some of the red blood cells, resulting in fewer red cells being available to carry the vital oxygen to the body's organs and the brain. The effects of alcohol and many drugs are enhanced with altitude. A person who is behaving in a controlled manner on the ground, may behave in a drunken manner at 10,000' not because he has consumed more alcohol, but because that which he did consume is more effective in upsetting his motor control, etc. at altitude.

The body requires a significant quantity of water each day. This need for fluid replacement is increased through exposure to cold, dry air. This contributes to the body's dehydration while in flight and in freefall. It is important for your skydiver to consume approximately two litres of fluid per day, with water and fruit juices being the recommended forms.

Warm-up Exercises: A series of exercises for the warm-up and stretching is presented here, for your use at the beginning of the day and prior to each jump. Additional exercise programs are presented and identified in the Appendices:

- i) Wall Push-up: Stand flat-footed about three feet from the wall. Lean in until it hurts, keeping the knees locked, the legs straight and the feet flat. Count to 15 slowly. Repeat for 1 minute.

- ii) Hamstring stretch: Put your straight leg with knee locked on the back of a chair or a table top. Keep the other leg straight with knee locked. Bring your head toward the knee of the extended leg as far as you are able so that you can feel it stretching. Hold for 10 to 15 seconds, and repeat for 1 minute. Avoid bouncing. Repeat the entire exercise for the other leg.





iii) Hamstrings and Lower Back: Lie with your back on the floor. Bring straight legs over your head and try to touch the floor with your toes keeping your legs as straight as far as you are able so that you can feel it stretching. Hold for 10 seconds. Relax by bringing your knees to your ears for 10 seconds. Repeat the alternating stretch and relax periods for 1 full minute.

iv) Sit-up: Lie on the floor with your knees bent and your feet close to your buttocks. Come to a sitting position. Lie back slowly. First try with your arms straight in front. As you improve, fold your arms behind your head, but do not pull against your neck. Repeat until you can't do any more. Try to complete at least 20 sit-ups.

v) Shoulders: Standing or sitting, stretch your arms over your head and reach back as far as possible. Lift your arms over your head. Hold onto your wrist and pull your arm towards your other shoulder by first pulling in front of your face, then pulling behind your head. Clasp hands behind the back. Move your hands away from your body as far as possible. Place one hand over the same shoulder and the opposite hand behind the back. Try to touch finger tips together. Repeat on the other side. Hold all arm exercises for 10 seconds. Repeat 10 times for each arm.

vi) Neck Strengthening: Place your palm against your forehead. Push hard on your forehead. Do not allow any movement. Hold for 3 seconds. repeat 10 times. Place your hands against your ears. Attempt to turn to one side, but resist with your hand. Do not allow any movement. Hold for 3 seconds. Repeat 10 times for each side. Keep the same hand position, attempt to bring your ear to your shoulder. Resist with your hand Hold for 3 seconds. Repeat 10 times for each direction.

vii) Trunk: Sitting on a stool or a hard back chair, turn as far as possible in one direction. Hold for 3 seconds. Turn to maximum in the other direction and hold for 3 seconds. Repeat 10 times for each direction.

Following is a list of exercises for an overall warm-up with stretching of muscles and soft tissues. It should be used each day prior to a light run and certainly before skydiving activities. The routine works from head and neck down through the entire body, stretching and exercising each joint. Gentle, gradual sustained stretches held for between five and fifteen seconds is the correct approach. Do not bounce!

The routine is listed below, illustrations with more detailed descriptions are found in the book, "Bend & Stretch" by G. Stewart and B. Faulkner, (c) 1979. The exercise numbers (e.g. C-1) refer to specific exercises in this booklet.

Head:

Neck 1/2 circles, forward side to side, then back side to side

Shoulders:

Arms over and under behind back (clasp hands if possible)

Arm circles (B-1)

Arm crossovers (C-1)

Trunk:

Trunk rotation (C-2)

Sit twisters (C-3)



Overhead side stretch (B-2)
Trunk twists (B-3)

Abdomen:
Sit-up with a twist to opposite knee
Curl-ups (C-4)
Sit-backs

Groin:
Groin stretches (C-7, B-5)
Split Stretches (C-13)

Back:
Stretch and tuck (C-8)
Head to knees

Hamstrings:
Sit & reach (C-10, B-4)
Hurdler stretch

Quads/Thighs:
Thigh stretch (C-11)
sprint stretch (lunge position)

Ilio-Tibial Band:
Side bending (C-9)

Gastrics/Soleus:
Gastroc & soleus stretch (C-12)
Ankle circles

Pre-Run:
Heel raises and split squats (C-15).

Finish with a 12 to 15 minute run at moderate speed.

The time required to complete the warm-up program is roughly 20 minutes. No special facilities are required other than a level floor or ground for standing, sitting and lying down, plus a sturdy wall for the side bending. Clothing should allow a full range of motion for all joints; in a cool outdoor or air conditioned setting, full length sweats are recommended in order that the body is able to warm-up. Footwear should be a proper fit; shoes appropriate for running with a snug, cushioned heel are recommended. They should be suitable for the post warm-up run.





Section D) Making Ethical Decisions

Module 7.1 Making Ethical Decisions

The reference material for Making Ethical Decisions is found in the *Coach 1 Reference Manual (v.2004-10)*, Section 4 pages 106 to 133.

6-Step Process (from Coach 1):

1. Establish the facts of the situation.
2. Determine the ethical issues involved in the situation.
3. Identify potential decisions that could be made or actions undertaken, and consider what might result from each decision.
4. Identify the Pros and Cons of each potential decision.
5. Make a decision: select the best option.
6. Design an action plan to implement the selected decision, and plan to manage its consequences.



Appendices





Appendix: Sport Canopy Endorsement

Introduction: The sport canopy endorsement states that the person has demonstrated enough skills and knows enough technical knowledge about canopies that they are now cleared to fly a canopy that would be considered a non-student canopy.

The transition from round canopies to square (ram-air) canopies in all areas of the sport, including the first jump, has led to the need to clearly specify what constitutes suitable training to be ram-air qualified. Although the first jump course provides enough information to safely handle a student ram-air, further training and information is required prior to leaving the forgiveness of the student canopy and moving on to the less forgiving higher performance ram-air canopies. Thus the sport canopy endorsement was created (1997).

Coach 2's have the privilege of administering and signing off this endorsement. Coach 1's are part of the teaching process on the way to completion of the endorsement. However, it is the C2's who are ultimately responsible to ensure that learning has taken place.

Coach and Instructor strategies for the delivery of this endorsement would be through the effective use of a combination of lectures, demonstrations, discussions and reading. Application for the athletes would be in the form of practical demonstrations, drills and question and answer. Evaluations would be practical assessments of demonstrations and technical assessments of written or oral questions. This endorsement is an ongoing process starting shortly after the first jump and continuing usually until sometime after self supervision. It is not a one time checkout, but the culmination of initial canopy training. Make it realistic, challenging and fun.

Endorsement Topics

The following areas from the PIM 2A - Canopy Control Skills on page 38 must be taught and learned by the individual:

- canopy identification
- flight control check
- flat turns
- landing technique
- full glide turns
- observation of drift
- stall practice
- observation of surface winds
- rear riser turns
- landing approach



Note that all of these skills are also required for self supervision.

Additional areas to be taught and learned are:

- canopy theory of flight (PIM 2A - Canopy Control Technical Knowledge on page 44)
- rules of the air (PIM 2A on page 47)
- assessing weather and terrain (PIM 2A on page 49)
- wing terminology: aspect ratio, trim, glide ratio, etc.
- accessory equipment, POD's, sliders, lines, pilot chutes and toggle types
- awareness of canopy specifications as per owner's / manufacturer's recommendations (i.e. recommended weight ranges and maximum suspended weights)
- unusual situations review of landings and canopy malfunctions (PIM 2A on page 50)
- backing up in high winds
- turbulence (F-111 versus zero porosity materials)
- oscillations
- accidental downwind landings

High Performance Canopies

When going to very high performance canopies like those with very high aspect ratios, elliptical wings and similar designs, further information must be covered and understood. Characteristics of this type of canopy are:

- usually 9 or 21 cells with high aspect ratio, possibly elliptical in design
- zero porosity materials, usually spectra lines
- has a higher than normal forward air speed
- can pendulum extremely high with toggle and riser turns
- high performance landing techniques can achieve speeds in excess of 80 km/h (50 mph)
- when doing spiral turns, there is a need to bank the canopy gently with light toggle pressure to gain momentum in that direction prior to snapping the spiral turn on
- snapping a spiral turn may result in line twists which may be severe enough to lock the steering toggle down and results in an induced spinning malfunction
- radical manoeuvres below 1000 feet AGL are not recommended
- can stall suddenly and without warning
- can produce ground skim and excessive lift on a normal landing approach technique
- for safety reasons, make sure your weight to canopy size to experience to DZ elevation ratios match well, miscalculations may be disastrous
- ultra high performance canopies can have ultra high performance malfunctions creating above normal G forces in some situations
- slow speed malfunctions of more docile canopies are usually high speed malfunctions with high loaded, high performance canopies
- different high performance canopies require different landing techniques

Wing Loading Charts

The wing load is the ratio between suspended weight of the jumper and the square footage of the canopy. To calculate the wing load, add up the jumper's fully geared up weight minus the main parachute and divide by the square footage of the canopy. The resultant number is the wing load. It is expressed as that number to 1.





The following charts are guidelines from the industry and collected from experience for the selection of canopies based on type of material and wing loading.

F-111 versus Zero-P

	Minimum Ratio	Maximum Ratio
F-111	0.7 to 1	1.1 to 1
Zero-P	0.9 to 1	1.4 to 1

Note that higher wing loadings are common, even though the manufacturer's recommendations do not cover it.

Factors that affect the choice of Ratios:

Factors	Lowers the Ratio	Raises the Ratio
Experience	lower	higher
Skill	lower	higher
Decision Making Speed	slower	faster
* DZ Elevation	higher ASL	lower ASL
* Size of Landing Area	smaller area	larger area
* Number of Alternate Areas	lower number	higher number
* Size of Alternate Areas	smaller size	larger size
Confidence	lower	higher
Athletic Ability	lower	higher

* Where you perform most of your jumps.

What about canopy sizes? Although you can fly it, can you fly it *all of the time*? Although you can fly a canopy and land with a high performance landing really well, the question is would you want to jump this canopy all the time in the variety of wind, traffic, and terrain conditions that you will encounter? The margin of error is potentially decreasing drastically. Remember. It is the skill of the operator that will possibly save you, not the canopy.

Other Considerations for Wing Loading

- consider the implications of being hurt as they relate to your job
- consider the additional needs of your family, not only yours
- consider if you intend on doing exhibition jumps with this canopy
- consider the DZ elevation of intended skydiving vacations
- conduct a personal risk management assessment evaluating all factors

Safety and Technical Knowledge

Safety is an increasing issue with canopy control. The following are safety considerations to which one should adhere. Following these recommendations help in preventing people from getting hurt, a lawsuit, or a coroner's inquest.

Never borrow gear when attempting something new, complicated or potentially distracting.



BSR #1 states "No jumper will engage in parachuting activities or use equipment unless properly trained, and endorsed if required, for the same". When borrowing a canopy from someone else, it is your responsibility and a BSR to be properly qualified, briefed and trained on that canopy, its uniqueness, and performance, flying and landing characteristics. If you are lending your canopy to someone, it is your responsibility to see that the training and safety standards are met.

High-speed approaches can result in serious injury or death. Trying to execute this move with insufficient canopy experience or without a long enough shaping period or both just about ensures the preceding result. Many experienced jumpers can execute such a move gracefully and skilfully without fail time and time again. One must understand that it probably took hundreds, maybe a thousand, canopy landings to slowly shape that manoeuvre into the high performance landing. There were many hours under canopy, the hundreds of times dealing with all the varied wind and weather conditions, the motor learning process developed to the autonomous stage for that move and the vast amounts of assessment ability, superior awareness and judgment that comes with extensive experience.

Different drop zones have different visuals while under canopy. Always execute lower intensity high performance landings in a new area until the visuals of the area are learned. Other traps include girlfriends / boyfriends, family, relatives, exhibition jumps and peer pressures.

If for some reason you execute a high-performance turn and it appears that you will strike the ground, immediately jam full brakes regardless of the height above the ground, feet and knees together. Do not wait to flare at flaring height. Hopefully this will save you.

Several new equipment items have emerged recently and come with their associated safety concerns. Stowing sliders, removing booties, removing webbed gloves, undoing surf boards etc. are increased distractions and the possibility of poor canopy assessments and canopy collisions are increased. Realizing you have a slow speed type malfunction after you have stowed the slider can be dangerous if a cutaway is intended (wasted time, less altitude, possible hang up).

With many of the new ultra high performance canopies in the sky at the same time, the picture of where everyone is changes rapidly and a canopy collision can happen extremely quick. Colliding without warning can happen while stowing a slider or removing a bootie never mind what it would be like wrapping with a surf board. Most of these canopies are micro-lined and a collision / wrap situation can result in cuts and even dismemberment.

Doing CFS with nine cell micro-line canopies is dangerous. Thin cell height is less stable, higher aspect ratio produces more radical turns, and micro-lines are very dangerous for dismembering in a wrap situation.

Canopy pattern at a busy DZ: Your head needs to be on a swivel. **No** fooling around. Hand on risers right on opening. Clear air space and turn to DZ. Perform a wind assessment. Go to pattern entry points and avoid entering pattern late. If downwind, go to an upwind corner first. After turning on final, look right and left for collision avoidance. Go straight on final; no brakes, no S turns. Flare, run out, turn around, look back up the hill and pull one toggle **hard** to collapse immediately. Turn around and face the direction from which you came to look for the possibility of being hit. If someone is going to hit you or your parachute, lie flat on the ground as they will probably go over you and your lines. Stand by to cutaway if necessary.





Some jumpers line up downwind to do a 180 degree hook turn landing and are looking down to judge when to execute. The possibility of colliding head on with someone doing a normal landing approach is very high while doing this landing technique. Colliding low to the ground is surely disastrous.

Some jumpers can skim their canopies long distances at high speeds across the ground. Some land cross wind or even downwind to skim faster and longer. During normal landings, picking up your canopy, walking to the packing area, and even when packing or standing around, one must continue to remain alert to avoid a collision or being hit by someone exercising these techniques.

Do not underestimate the value of being able to do good stand up accuracy. Accuracy is a survival skill. Being able to put your canopy down where you want consistently is a tremendous confidence builder. Notice that the good high performance canopy pilots land in the same place almost every time! Work on accuracy and the perceptions and judgments involved on every jump.

Dealing with turbulence differs with the F-111 versus zero-porosity canopy. With F-111 canopies, partial brakes work best. With zero porosity full flight with smooth toggle inputs (serpentine) allows the canopy to power through turbulence. Partial brakes make the flight more turbulent. One should check their steering line lengths periodically to ensure the correct setting. Too short could lead to a turbulent ride or even collapsing. There should be a slight bow in the steering lines at full flight. [Editor's note: current studies suggest that for both types of canopies one should fly through in full flight.]

Non-collapsible pilot chutes and non-pull down / collapsible sliders can affect greatly medium to high wing loaded zero-porosity canopies. Effects could be that the canopy wants to collapse in turbulence. The top skin vibrates, the leading edge is dented inward and the result is that the canopy does not produce good lift both for flying and landing. Slider vibration causes magnification of vibration up the lines and results in an "accordion" effect on the canopy. This can cause collapsing of the canopy. This also produces premature wear on the lines just above the links where the slider grommets sit.

There are pros and cons of a kill-line versus bungee pilot chute. Advantages to the kill line pilot chute are that you have a deployment device that works immediately upon low speed deployments and it stays collapsed after opening. However, it rarely works if you forget to cock it. The bungee pilot chute does not have to be cocked during the packing process. However, it may not work well during low speed deployments. The bungee itself needs to be checked regularly for wear etc. It pilot chute may inflate during a high speed landing. The way the pilot chute has to be packed may lead to a horseshoe malfunction that cannot be released in the event of a premature pin pop deployment.

They used to say "You are never safe until you land". Today it may be "You are never safe until you go home". Exercising caution, common sense, self-discipline, control, alertness and better judgment is highly recommended to help ensure continued safety and / or raise safety in this area.

Personal Equipment Check-out



Previously, today's sport parachute container systems were referred to as a tandem system, meaning a container system made for one person that has the main and reserve parachutes on the back of the body. It is not to be confused with any parachute built for two.

When a person changes gear, it is important that a personal gear check-out is completed. Below are suggestions to ensure a safe transition. The two areas that need to be addressed are normal procedures and emergency procedures. Reference PIM 2A page 61 System Changes.

Normal:

- Safety checks: as detailed in PIM 2A and to the specifics of the gear.
- Donning procedures: points of adjustment, proper fit (3-ring at collar bones and leg pads on hips), bellyband last over top of everything, check for non-twist of main lift web and bellyband, cutaway and reserve handles in place.
- Main deployment system; throw-out (belly, BOC or ROL), pullout, ripcord (inboard or outboard). Training as per system requirements and changes from prior equipment.
- Second try procedure for the new system.
- Pilot chute packing techniques: pull out, throw out (BOC or ROL), ripcord (list and photos for each).
- Main parachute packing, specifically closing order and bridle routing. Also toggle stowing, line stowing and riser covers.

Emergency:

- Reserve / Cutaway System: TAS, SOS. Training as per system requirements and changes from prior methods.
- Body Position for Cutaway: arch back, legs tucked up and behind, head forward.
- Reserve Static Line: see student equipment and specific to the new rig.
- Reserve Parachute: identification, steering and landing.

Second Try Procedures

ROL Throw Out: With the fingers of your right hand spread as wide as possible, place your hand on the leg strap. Slide up the leg strap to try to choke off the handle. If you get it, great. If you do not, carry out your emergency procedures.

BOC Throw Out: With the fingers of your right hand spread as wide as possible, place your hand as far back as possible on the container. Slide to the container corner to try to choke off the handle. If you get it, great. If you do not, carry out your emergency procedures.

Positive Pull Out: With the fingers of your right hand spread as wide as possible, place your hand as far back as possible on the container. Slide to the container corner to try to choke off the handle. If you get it, great. If you do not, carry out your emergency procedures.

Cutaway Handle: Place your right hand on the main lift web around your 3-ring and slide down the main lift web until you locate the cables or the handle.

Reserve Ripcord Handle: Place your right hand on the main lift web around your 3-ring and slide down the main lift web until you locate the cable or the handle.

Make sure that you know your gear. Make sure that others know their gear. When in doubt, find out.





Appendix – Emergency Procedures Review

Reviewing emergency procedures with an appropriately rated Instructor is one of the most critical components of obtaining each CoP. The key here is “Emergency Procedures” not just reserve procedures (e.g. aircraft emergencies, injuries etc).

It used to be that the only time a person received training in emergencies was the first jump course. With the advent of the Solo, A, B & C CoP, reviews of this valuable information can be refreshed and new layers of sophistication added to the basics. At the "A" CoP level review the basics (buildings, trees, power lines and low obstacles, free fall emergencies) while refining unintentional night and water jumps, basic FS safety, canopy avoidance drills and group landing approaches. Cutaway practice must be performed and a high level of proficiency displayed.

Emergency Procedures Review

Address the five areas of the Skills Grid

Preparation

- Weather
- Forgotten equipment (i.e. do not find yourself at the plane with no altimeter, develop a gear up routine)
- Serious doubt prior to boarding
- Negative response to another skydiver's accident

In flight

- Aircraft
- Aborted take off
- Crashed take off (engine failure on take off
- Crashed after take off <1000'
- Aircraft stall
- Engine failure at altitude problem <2000', >2000' to <3000', >3000'
- Aircraft emergencies: fire inside, fire outside,
- Emergency exit altitudes for main & reserve
- When to shut off AAD's during an unplanned descent in the aircraft
- Sickness
- Main/reserve deployments in aircraft, door open, door closed, on climb out
- Tail strike
- Aircraft stall on exit

Freefall

- Malfunctions
- Other equipment (altimeter not working, lose goggles)
- Stability problem around pull
- Traffic problems; collision
- Fall into cloud/haze layer
- Lazy pilot chute toss

Canopy

- Correctible situations
- Low vs. High speed malfunctions
- Two canopies out scenarios
- Traffic on opening, traffic on landing
- Obstacle avoidance or collision
- Turbulence
- Landing in the wrong direction; how to land downwind, high speed safely (butt slide)



- Landing off DZ
- Trees, power line, water, fences, cars and roads, buildings and roofs
- F111 vs. Zero-P material
- Who to talk to when you want to learn to 'swoop'

Equipment

- Poorly fitting gear, incorrect gear-up by helpers
- Damage on opening
- AAD misfire
- Closing loop
- Wrong closing order
- Out of date reserve repack

FS Safety

1. When dive planning a student or novice, separate unusual situations from the normal jump. Keep unusual situations in the skill assessment or review portions.

Emergency Procedures Review "A"

1. Review the basics (buildings, trees, power lines and low obstacles, free fall emergencies) while refining unintentional night and water jumps, basic FS safety, canopy avoidance drills and group landing approaches. Cutaway practice must be performed and a high level of proficiency displayed.
2. For unintentional night jumps specifically discuss selecting safe alternates, landing in deep brakes, and the good old fashioned PLF.
3. Issues on 2-way climb outs
4. Freefall 2-way problems
5. Loosing track of your 2-way partner
6. Canopy avoidance drills, and what to do if you can't avoid
7. Emergency aircraft exit altitudes can be a bit lower now if needed
8. Flight landing patterns

A full unintentional water landing briefing is mandatory at this point. There are many key points to stress. Please note that the full night and water jump endorsements must be acquired by the novice prior to performing these types of jumps.

- Avoidance
- Get to solid ground or shallow water if possible.
- Avoid moving water
- Preparation
- Loosening the harness
- Shoes, gloves, helmet
- Inflate floatation device (if available)
- Landing
- Long deep breaths to retain oxygen
- Flare and before touching down turn canopy to land beside you
- Front loop down and out of the harness
- Discard helmet, shoes





- Swim away from the canopy
- Tread water and disrobe
- Swim for shore
- Equipment concerns do need to be addressed

RSLs, AADs, and two canopies out.

RSLs, AADs have limitations and the novice needs to be aware of the situations where these devices can be a disadvantage, i.e. spinning malfunctions, prolonged level flights.

The two square canopies out scenario needs to be discussed; cutting away down planes, identifying the dominant canopy, steering and landing sides by sides and biplanes. The novices need to understand the risk of entanglement if cutaways are performed. The PIA report (available at www.pia.com) is an excellent resource on the subject

Gear transitions, borrowing gear.

Emergency Procedures Review "B"

1. Large group FS safety and large aircraft safety are the major topics. Refresh the novice on the key points of all procedures.
2. Decelerate properly from tracking before deploying.
3. Again, cutaway practice must be performed with a high level of proficiency.
4. Emergency situations specific to the person's discipline.

Emergency Procedures Review "C"

1. Physical emergency procedures might change with equipment.
2. RSL's and where they might or might not be appropriate.
3. Severity of 'low-speed' malfunctions.
4. High Performance landing approaches in a traffic pattern.
5. Emergency situations specific to the person's discipline.
6. Again, cutaway practice must be performed with a high level of proficiency.

By this point, this endorsement should mostly be to prompt the person to give some thought to emergency procedures and to remind them of potential problems. Tailor the conversation to the person's discipline and to whatever areas that you see them needing improvement in (i.e. if their landings always look out of control, not understanding 2 canopy out situations fully).



Appendix - Coach 2 - Principles of Movement

Adapted by Tony Mercer

Principle	Key Points	Demonstration	Application in Skydiving
Stability	Low centre of gravity and wide base of support provides the most stability	Sumo wrestlers or football players – Try pushing each other over	Arch
Maximum Force – MAX F (Summation)	Use all the joints possible	Try pushing me over with your finger only Now use hand and wrist How about the arm Finally add legs and torso	Turns are not done with the hands but a shoulder dip Canopy control use the whole arm to pull down on the steering toggle
Maximum Velocity – MAX V (Continuity)	Use all the joints in order	Throwing balls is obvious but demonstrate a golf swing -starts with the arms and then involves the whole body moving	Not very applicable in skydiving
Maximum change of velocity – MAX ΔV (Impulse)	Impulse is force multiplied by time. A misconception is that a fast application causes a large change. This is incorrect. Think of stabbing your foot hard on the gas pedal and then letting off. There is a big change but then it stops. If you want to really accelerate put your foot on the floor and keep it there. i.e. big force for a long time	Push me on the creeper. A quick push with little force causes me to move very little. A bigger force for the same short time makes me move faster. Now keep pushing as I move and I will get even faster	When turning a canopy we keep the force during the turn to make us turn faster. Actually that is why we coast in many turn movements. If we didn't return to a neutral position we would really wind up and get out of control
Action and Reaction	If you push on something it pushes back So to go right push (deflect) the air left	Lie down on a creeper and ask them how do you make it turn left?	Turns, loops and rolls
Torque	Forces applied at a distance from a pivot cause Rotation. The further from the pivot the more effective the force is in causing rotation	Pushing on a door close to the hinge with your finger. Then push with the same force on the door handle. Get on the creeper in the box man position – Have them push you under the armpit or on your body to make you rotate. Then see what happens if they push on your hands.	Throwing your hands forwards in freefall will cause a fast loop especially if you bring in your legs.
Angular Momentum	The physics to do with moment of inertia is too complex. Basically once you start spinning you stay spinning and the smaller you are the faster you spin	Spin them all on a creeper and once spinning tell them to bring in their hands and arms – the figure skater move is easily felt	A layout loop will always be slower than a loop in a tuck. Once the loop is going





Appendix – Main Packing Endorsement

The applicant must satisfy the four listed requirements and successfully pass a practical test to get signed off on the endorsement card by an instructor, coach or rigger.

1. “P” – **pack**: ability to pack properly, minimum 10 under supervision demonstrating proper sequence, techniques and neatness (PIM 2A).
2. “I” – **inspect**: ability to do basic inspection while packing (PIM 2B).
3. “N” – **name**: ability to identify major components (PIM 2B).
4. “T” – **tangles**: ability to clear common minor entanglements (PIM 2A).

The above points are best taught in two phases. The first phase is:

1. Teach the normal pack. (pack, inspect, name)
2. Practical experience of the normal pack, usually 6 - 10 times.
3. Practical testing demonstrating packing techniques, basic inspection and orally listing the names of the major components.

The second phase would be the not normal pack.

1. Teach the seven common entanglements and how to recognize them.
2. Practical experience of clearing entanglements, receiving feedback, while you supervise.
3. Practical testing demonstrating the ability to recognize and clear minor entanglements.

The Seven Common Entanglements

1. back or front flip through risers, below slider
2. back or front flip through risers, above slider
3. step through one riser, below slider
4. step through one riser, above slider
5. step through a line, below slider
6. step through a line, above slider
7. step through a cascade

Suggestions for the Coach / Instructor / Rigger

1. Make sure that you pack well first, before teaching someone else.
2. Make sure that you are using approved techniques and know the correct reasons for their use.
3. Cross check with a rigger to make sure that what you do is correct.
4. Make sure that the person being checked out also knows how to do proper safety checks as well. It is actually on the skills grid **before** packing.
5. Teach and practice endorsement parts 1, 2 and 3 together.
6. Evaluate part 1 separately, first, orally.
7. Evaluate parts 2 and 3 together, practically.
8. Teach entanglements (part 4) as a separate phase after they have learned the complete normal pack first. This will make entanglements easy to learn and understand.
9. If unsure about part 4, team-teach first with someone rated who truly knows it.
10. Make sure you teach part 4 and practice it, before you evaluate it.
11. Evaluate part 4 separately, practically, after parts 1, 2 and 3.
12. When evaluating part 4, the person being checked out should demonstrate the ability to clear several types of entanglements. Clearing one type of entanglement by trial and error is not adequate.
13. Always use PAF when teaching packing, break into lots of small steps.
14. When all 4 parts are passed, sign off the endorsement card. Be ready to stand by your decision.
15. This endorsement is required for the B CoP.
16. All endorsements, etc. are to be treated as a positive educational experience. They are **not** to be an opportunity to degrade.

Ratings for Administering

Pre January 15, 1997 Coach 1 and Rigger A are the lowest ratings to administer this endorsement. Post January 15, 1997 Coach 2, Jump Master, Instructor A and Rigger A are the lowest ratings to administer this endorsement. Any person who was a Coach 1 prior to January 15, 1997 still retains the privilege.



Appendix – Coach 2 and the CoPs

A	Performed the 5 jumps required for completion of the 2-Way belly-to-earth Freefall endorsement
	Completed the Sport Canopy Endorsements A
	Completed Emergency Procedures Review A
	Completed the Main Packing Endorsement
B	Completed 15 self-directed accuracy jumps, landing within 15 meters of target
	Completed 15 – belly-to-earth 2 ways <i>since</i> the A CoP
	Performed a manoeuvre series, in the order of right 360 turn, left 360 turn, front loop, back loop, right barrel roll, left barrel roll, all in less than 16 sec.
	Performed a Figure 8 in the “on back” or “sit position” (+/- 45°)
	Demonstrated line and angle control during a landing approach
	Performed the 3 belly-to-earth evaluation jumps and completed the Group Skydiving Endorsement
	Completed the Sport Canopy Review B
	Completed the Emergency Procedures Review B
C	Performed 25 self-guided stand-up accuracy jumps within 10 meters of the target
	Completed 100 belly-to-earth formation skydives – 25 of which are 4 way or larger
	Demonstrated a horizontal flat track.
	Complete two (2) of the following:
	❖ 5 FS 4-way jumps with 5 or more completed formations within 35 sec of exit using a minimum of 4 different FAI formations per jump
	❖ Style series (International Cross) in less than 13 seconds
	❖ Free fly series in less than 16 seconds (From the sit, back loop, front loop, 360 right turn, 360 left turn, cartwheel right, cartwheel left)
	❖ 5 CF 4 way jumps with 4 rotations (5 points) within 2 min 30 sec of aircraft exit
	❖ Less than 15 cm scored on an electronic scoring pad on 5 precision accuracy jumps
	Completed Emergency Procedures Review C
D	Completed 10 consecutive pre-planned canopy stand-up landings to within 5 meters of a target
	Completed two (2) of the following five tasks:
	❖ on 5 FS 4 way jumps, score 7 points within 35 seconds of exit OR on 5 FS 8 way jumps, score 7 points within 50 seconds from exit. Either case requires using 5 different FAI formations per jump
	❖ 5 CF 4 way jumps with 8 rotations within 2 min 30 sec of aircraft exit
	❖ less than 5 cm scored on an electronic scoring pad on 5 precision accuracy jumps
	❖ Style series in less than 11.5 seconds
	❖ 2 way free fly with interactive camera consisting of exit move, spock, monkey flip, spock, eagle, transition, dock, transition, dock, end move in 40 seconds or less
	Competed at a regional, provincial or national competition in one discipline





Appendix – 2-way Endorsement

The Coach 2's role in the 2-Way FS and Group FS Endorsements

2-Way FS Endorsements

a) Reason

- Under our current CoP's, an **A CoP applicant** must have completed the 2-Way FS endorsement. After obtaining an A CoP (and only then), the A CoP holder can participate in **2 ways with a B CoP holder who has at least 100 jumps**, provided that Coach 2 approval has been obtained. This allows the new A CoP holder to practice the skills learned in the 2-Way FS endorsement with another competent participant. No new skills are introduced, just the opportunity to experience 2 way FS.

b) The Overall Skills

- Generically the requirement for the 2-way FS endorsement as stated in PIM 1 (2002) is to “perform the 5 jumps required for completion of the 2-Way Freefall endorsement as detailed in PIM2B”. Note that 5 jumps is the minimum. It may require an individual more jumps than this to complete the requirements, since it is a lot of skills and information to fit into 5 jumps!
- The participant must have completed Stages 12 and 13 of the recreational skills grid which includes:
 - Preparation:
 - Relaxation
 - mental practice,
 - In flight:
 - spotting for 2 ways,
 - Freefall:
 - pin practice
 - level control
 - docking procedures / grips
 - break-off procedures,
 - Canopy Control:
 - riser manoeuvres
 - canopy avoidance drills,
 - Technical Information:
 - FS signals jumpsuit selection
 - Use of weights.

c) The 5 jumps

- Exits should be free-flown to provide the candidate the opportunity to fly his/her body and deal with headings.
- **The First Jump(s) – Pin Practice**
 - The Coach 2 compensates for levels while the candidate deals with closing a short distance (2 m) using only leg extension to provide forward movement.
 - The candidate takes palm pressure grips, monitors altitude and calls break-off (4000 ft preferred). Note: Palm pressure grips are grips where the Coach 2 holds their palms up facing the candidate and the candidate places their palms against the



Coach's and maintains them there. This exercise teaches the candidate that they must fly "relative" rather than taking physical grips and hanging on.

- As the Coach 2 in the air, remember to maintain levels and not to backslide as the candidate is coming towards you. Provide your palms as a target. Once contact has been made, allow a few seconds for the candidate to neutralize their body position and check altitude. (Note: Chest altimeters worn by the Coach 2 are a great asset here.) Then back off another 2 m for the next attempt. Watch your altitude and leave at break-off.
- Simple signals may be necessary e.g. legs out.
- If you put track on the bottom of the jump they should have spent a jump learning how to track as a separate skill.
- The **pass criteria** for this jump is a demonstration that they can **dock at least three times from 9,500 ft**

- **The Second Jump (s) – Level Control with Pin Practice**
 - For these jumps the Coach 2 provides a target (base) either 1 m lower (and 2 m back), or 0.5 m higher (and 2 m back). The candidate then has to adjust his/her level to match yours and then dock. Sounds simple to experienced skydivers, but this is a hard skill to learn. Emphasize matching levels prior to docking. Watch the candidate's body position in order to provide feedback on the ground. The box position should not be broken.
 - The **pass criteria** for this jump are a demonstration that the candidate can **match fall rates and docking four times (twice up and twice down) from 9,500 ft.**
- **Completing the additional skills from the skills grid.** While completing these basics, layer on the details of: spotting for 2 ways, candidate exit count, exit grips, FS signals, freefall grips, docking situations, safety issues, altitude awareness, riser manoeuvres and canopy avoidance drills.
- **Tracking** can be introduced at any point; but it is critical that when introduced, an ENTIRE skydive be devoted to it. It does not make sense to get someone to try tracking for the first time when they are at 4000 ft. Nothing like the pressure of limiting altitude, not being able to see your altimeter and knowledge that you are getting close to pull time, to distract someone from learning. See the separate handout – **Teaching the Track**





Appendix – Group Freefall Endorsement

a) Reason

- Prior to moving onto group skydiving (more than a 2 way), the A CoP holder **MUST** attain a B CoP which includes a Group Freefall endorsement, as well as other practical and written exams.

b) The Overall Skills and the 3 jumps

- The Group Freefall Endorsement entails 3 jumps during which the Coach 2 “coaches” and evaluates the candidate for:
- The participant must have completed Stages 18
 - In-flight:
 - calculation and execution of the spot for the load
 - Freefall:
 - free flown exit followed by an approach to a dock,
 - proximity maintenance by closing vertical and horizontal separation,
 - a flat track adequate for separation from a 4 way,
 - Canopy Control:
 - an opening avoidance drill under canopy,
 - a canopy dive recovery drill,
 - Awareness during final canopy approach.
- The **free flown exit followed by an approach to the dock** requires a Minimum 2 second delay on exit. The candidate should have a relatively smooth dive with a horizontal approach to the dock, and then dock within 4000 ft of exit altitude.
- **Proximity maintenance** entails facing off with the candidate and then testing the candidate’s ability to follow a moving person (formation) in 3 dimensions and then dock. Three moves should be tested in a dive from 9500 ft.
 - The first would have the Coach 2 move back 5 m, down 2 m and turn 90 degrees.
 - For the second move, the Coach 2 would be positioned sideways 5 m, up 1 m and turned away 90 degrees.
 - The third move would place the Coach 2 forward 5 m and up 1 m. All docks by the candidate on the Coach 2 must be face-to-face 2-way docks.
- The requirement for a **flat track** is that it be adequate for separation from a 4 way. This is a much better track than is expected for the A CoP. Ensure that it is a good track, because with the smaller, zippier and often more unpredictable canopies new jumpers are buying, they need all the horizontal separation they can get before opening!
- **The opening avoidance drill** is demonstration that immediately after canopy opening the person can turn in one direction or the other using rear risers before undoing the toggles. This skill can be observed from the air or ground and is meant to ensure that the candidate can performed this life saving skill.
- **A canopy dive recovery** is a 180-degree front riser turn followed immediately by a flare, above 2000 ft. The purpose of this drill is to experience a rapid increase in vertical descent and speed, and the forces required to flare out from it. ‘Awareness during final’ means ensuring that the person is aware of the other canopies during landing. The person’s head should not be fixated on the landing area, but rather constantly scanning from side to side for possible traffic, both above and below.

In conclusion, ensure that you provide the coaching in all skills area for the required endorsements. Spend the necessary time on the ground dirt diving ensuring the candidate



understands what is required to perform the skill. Once again be fair, maintain standards and ensure that the requirements are met prior to signing them off in the logbook.

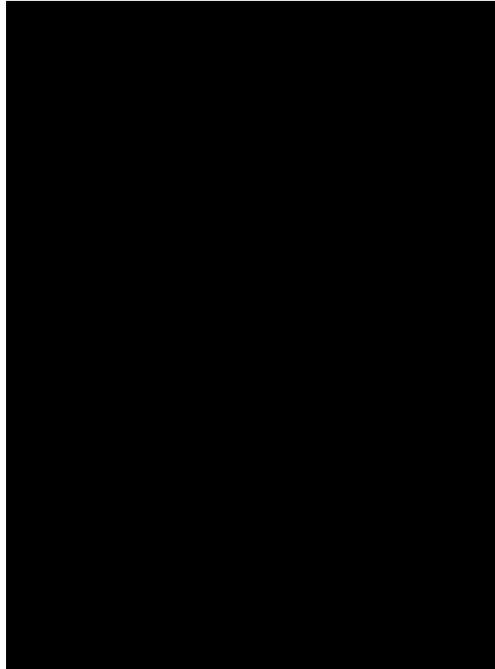




Appendix - Coaching the Track

Break-off and the track are two critical parts of the skydive for anyone participating in 2 way or group freefall. What happens in these final 7 to 10 seconds of freefall can determine how eventful one's canopy ride is going to be. Coaching the break-off and track requires discipline as the excitement of doing two ways often overshadows these important "solo" skills. Let's focus initially on tracking.

Tracking theoretically should not cause a higher vertical descent rate than a normal belly to earth box body position. In fact, it should actually descend slower, vertically. The best crackers are often seen as going "up" relative to others during this phase of the skydive. Check out your track using video. It may surprise you to see how well you are doing.



Over the years of observing the delta position adopted by many people calming to be tracking, I have come to the conclusion that the process/coaching used to teach people how to track is perhaps causing the problem. The most important part of the track and hardest for individuals to accomplish is the de-arched (cupped) upper body position. So rather than teach tracking by shaping from the delta, perhaps we should shape from a de-arched "cupped" position. An alternate way to teach the track is in the following 3 steps.

Step 1

Have the individual de-arch in the box position with their head up. This position should have the elbow and knees lower than the torso. See PIM2B for diagrams. Now the individual has the base from which the track can be shaped. If this has not already been practiced as part of the levels (up/down) exercise for the 2 way endorsement, have the Solo Cop holder go up and practice this in the air!

Step 2

From the de-arched position, have the individual straighten and lock their knees (not their hips) to extend their legs, which will bring their toes below them (their toes should be on the ground if practicing this on creepers). This is tough to accomplish as it requires the individual to push aggressively against the airflow and a resulting tilt of the body will occur. Explain that this feeling is normal. Note that even if the arms are still in the box, this position will provide reasonable horizontal separation with limited vertical loss. As a Coach 2 observing and performing skill analysis, you will have to chase them. Watch the upper body to ensure the de-arched (cupped) body position is being maintained as the legs are locked at the knees and straightened out. If the individual is going into a dive, chances are that the de-arched position is not being held and the person is doing a delta. Go practice in the air before going to the next step.

Step 3

Now it is just a matter of shaping the arms and legs to maximize the efficiency of the track. On the next dive have them slowly bring their arms to 90 degrees (now an iron man track), 45 degrees and then to within 20 cm from the sides of their bodies (beside and not behind). Maintain the de-arched upper body position! Often an individual will break the de-arch when bringing their arms back, and go into an arch with their upper body.... and a resulting dive! Not desirable! The last bit of tweaking required is to bring the knees about 15 to 30 cm apart and bring the head up to watch where they are going. Note that as the stance is narrowed - arms are brought closer to the sides and knees closer together - stability tends to become harder to maintain. This will require practice!

The time issue: when tracking for 7 to 8 seconds the individual must develop an internal dock, as it is difficult to watch an altimeter or rely on electronic devices for this timing. The best thing to do is to have them count off the seconds. Tracking less than 5 seconds - unless altitude dictates - is not making the most of the track. Remember the purpose of the track? People generally double the distance they cover in seconds 5 to 7 of the track. Losing track of



timing while tracking may also be responsible for low pulls. When the candidate has demonstrated a good 7 second track, flare-out, and wave, *they* will be ready to use it at the bottom end of the skydive and NOT before.

Regardless of how tracking is taught, the individual should practice the track from altitude with a Coach 2 or video. Remember to track perpendicular to the flight line so one does not collide with other jumpers on the load. Also remember to stop tracking by 4000' flare out and prepare for deployment. Do not pull in a track. If the three step process described above is used a good track will be accomplished in about 3 skydives.

Now the individual can go up and practice the track as well as break off procedures. A typical jump including both would be: exit and turn perpendicular to the flight line; wave-off and turn 180 degrees looking for potential traffic, track for at least 7 seconds (about 1250 ft) while watching for traffic below, flare out and wave while checking the airspace above for traffic and then if clear of all traffic, pull (practice pull if above 4000 ft) while maintaining a stable shoulders *level*, belly to earth body position.

Break-off altitudes have changed over the years from 3,500 ft to 4,000 ft for a few reasons. One of them is to allow for more time to track (full 7 seconds - 1250 ft); and secondly, it allows for a higher pull altitude (2500 ft) for those smaller high performance, often unpredictable opening canopies that can lose 1000 ft quite quickly during a strange opening. So a higher activation altitude is a good thing! But remember, don't sacrifice tracking for 'opening high'; because someone may be above you trying to avoid you during opening and is hoping that you will be pulling at 2,500.

Note: Originally published in CanPara Magazine Oct/Nov/Dec 2002 by Tom Pfeifer





Appendix - Communication

Communications:

a) **Positive Approach:** There are three key benefits available by accompanying your student (in the aircraft or in freefall); these are:

- Relaxed learning through positive reinforcement
- Correction of your student's actions at the time
- Back-up to your student in completion of his tasks.

To achieve these benefits, it is necessary to communicate with your student during the exit and freefall. There are three ways in which you can do this: by talking (verbal), by making physical corrections (contact) and by showing him (signals). How and when to communicate, and what you'll be addressing are covered in this section.

b) **Verbal Communication:** Talking to your student, while standing on the step or when freefalling is possible. Due to the noise from the wind and aircraft, restrict this to simple key words of positive instructions. Words such as Arch, Look, Pull, and Go will be readily understood by your student; he will react to your instruction in the same way that he responded during the dirt dive. To deliver your instruction, position your mouth as close as possible to your student's ear; use a loud voice while speaking clearly. If there is no response, move closer but precede your instruction with the person's name, "Bill, Arch!" Make eye contact so that the student can read your lips; this can help in some situations. Talking to your student works very effectively during the initial 8-10 seconds of freefall, when the noise level is lower.

"Hi, Bill" or whatever his name, said immediately after the exit will cue the student to make eye contact with you and then proceed with his Observation Circle. This hello will speed the start of your student's actions in freefall. Not saying Hi may cause the two of you to waste some precious seconds of freefall time.

c) **Contact Signals:** To help your student to complete his tasks, use the following:

- no action: a shake at the student's hip or shoulder works as a "wake-up" or take action signal; your student should be instructed to check his altimeter, then respond as appropriate to the present altitude when he receives this signal
- stiff: a shake at the wrist or forearm is the instruction to relax; your student should take a deep breath and think "relax"
- incorrect action (e.g. practice pull): use a grip or touch with pressure to correct or redirect the action.

d) **Hand & Visual Signals:** A few of the hand signals are taught during the early stages; others are introduced later in conjunction with turns, loops, rolls, or up/down and forward/back. These are very useful on most jumps since you are not usually in physical contact with your student. The finger signals work well if presented slowly and explicitly when you are close together. Examples of commonly used signals are:

- pointing: conveys the idea that he should be directing his attention to whatever you are pointing at (e.g. altimeter, main handle)



- pointing to yourself conveys the idea that your student should watch and copy your action; e.g. point to your main handle or altimeter or legs, then demonstrate the movement you want him to do
- Legs Straight: extend two fingers from curved to straight
- Heel clicks: click the thumb and forefinger together to signal for this exercise
- Come: hands palm up, curl the fingers towards yourself repeatedly signals for the student to move forward
- Stop: hold the hands up, palms towards your student signals him to stop
- Turn: move the hand in a circle, then point (L or R) signals a turn in the direction indicated
- Arch: placing the hand palm down, fingers wide spread and move it in a rocking motion side to side
- Relax: visual contact and a smile works as a relax signal
- Think/Remember: tap your head or point to it is a reminder to a key action emphasized during your student's preparation (think!)
- Circle of Observation: Join thumb and forefinger in an 'O' symbol with other fingers curled into tunnel shape (so as not to be confused with OK)
- Check Arms: extend thumb and little finger; all others curled
- OK: Smile and nod or Thumbs-up, proceeding according to plan.

Keep in mind that signals should be used sparsely in a clear, non-ambiguous manner.

SUMMARY: Communication with your student can substantially improve performances on the jump as well as adding to the safety aspects. It is a good idea for all the Coaches at your DZ to use the same signals. Your student will perform properly when appropriately tasked and prepared for the jump. This includes starting with a few key signals, then adding to the list over the period of a few jumps. Do not expect him to learn all of them at the outset of his training.

Get a list of Hand Signals used at your home Drop Zone





Appendix - Skydiving Coaching Tips

In-Flight Skills

Pilot Briefing and Aircraft Seating

Provide the novice with the possible scenarios for the jump and have him run through with you, what should happen in respect to these activities. This lets you iron out any problems and avoids wasting time at the aircraft. Remember you are a Coach and not an Instructor. Suggestion is much more appreciated in this role than is direct instruction

Spotting

There are a number of things you can do to maximize the learning potential of this skill. The first one is LET THE NOVICE SPOT!! In the aircraft remember to advise the pilot to give a longer run in and to open the door a little earlier to allow the novice time for spotting. If the novice calls the spot and it is within reason (e.g. you can make it back safely even if you had a round) follow them out. Trial and error is required for a novice to polish their spotting skills. If the spot is way off, correct it before the climb out in order to avoid a bad situation.

Exits

Demonstrate these on the mock-up before proceeding to the aircraft to save time.

Intentional Unstable Exit

For this skill have the novice hang onto one of their legs with both hands while leaving the aircraft. DO NOT hang onto your novice's leg, flip his foot or have any contact with your novice as he leaves the aircraft. More than one incident has occurred because of those kinds of inconsiderate actions. This is an intentional unstable exit, not a surprise one!

Throwing a WDI or Rate One Turn

This skill is best practiced first at lower altitudes (2000 - 3000 ft) to allow the novice a good chance of visually locating and following the WDI to the ground. An accuracy load or a short free fall delay jump (4000 ft) would be an excellent occasion for this. An alternate for this is to perform a rate one turn while on the climb to altitude.

Free Fall Skills

This section will depend on the level of the individual jumper you are dealing with. For brevity, let's consider 2 groups of jumpers: Solo and A.

For the Solo, their ability to fly stationary or "parked" is still under development (unless they have had a lot of tunnel experience). Your job as the coach is to provide a stationary target for the jumper. The coach should never be moving. Only by you keeping still and providing a stationary frame of reference for the novice will they understand just how much they are moving about in the sky. If there is a substantial amount of orbiting taking place, you should be observing the overall body position, making note of arm and leg placement, curve of the arch, head position, chest flat or forward; gathering this information in the air will help you to correct the body position on the ground. The #1 aide you can use here is a camera (video or still) so that you can capture the body position and show to the novice why they are moving about the sky and how to correct. Follow this up with ground practice, using the various motor skills principles first learned about in Coach 1. If the novice is so far out that you are losing track of their position, or the gap is too great, only then should you provide corrective action by closing



the gap, parking yourself back in front of the novice. Point (signal) that you want the novice to achieve stationary flight directly in front of you. But resist the urge to follow the novice as they orbit around the sky.

The key thing for the Solo skydiver is: Get there – Stay there – Get away!

For the more advanced A-CoP, you should be absolutely stationary in the sky, and it is entirely the novice's job to get in front of you. Under no circumstance should you assist them (unless you are recovering from a bad exit). Make the novice work. More fine detail and finesse should be seen at this level. Minor level corrections should be more autonomic. For the more advanced flier, turns, transitions, super positioning should come with more ease.

Canopy Control Skills

Rear Riser Turns and Spirals, and Front Riser Turns

Stress safety and the fact that the air must be clear of other skydivers before performing this manoeuvre – LOOK around you. DO NOT spiral below 2000 ft due to possible AAD activation and collision with other jumpers.

Landing Approach

The purpose of this skill is for the novice to get an idea about how to apply a landing pattern. Use a diagram of the landing area to describe where and when he should be on downwind, base and final. The purpose here is the pattern and following it without doing S turns on final, not how far away the novice lands.

Line of Flight Controlled Approach

This skill is meant to teach the novice how to hold a line on an accuracy approach. The objective is to land on the wind line of the target. With more experience the novice can control their descent rate using brakes; however, it should be stressed that the canopy should be allowed to fly at about 100 ft in order to get a good flare.

Set- Up Assessment

The purpose of this skill is for the novice to gain judgment as to when to turn onto final, so that no S turns are required on final. This is an important skill for later on in skydiving as it prevents the hazard of jumpers circling around the target area and prevents the novice from cutting off other jumpers on final approach.

Equipment Skills

Remember to be systematic when teaching packing and performing an equipment inspection.

Technical Knowledge

Technical knowledge should be taught in between jumps if there is time, or more preferably during weather break or when jumping is not occurring. Remember to apply PAF and KISS
The information contained in PIM 2A is an excellent resource for technical knowledge.





Appendix - Packing Endorsement

The applicant must satisfy the four listed requirements (**PINT**) and successfully pass a practical test to get signed off on the endorsement card by an instructor, coach or rigger.

"P" - Pack: ability to pack properly, minimum 10 under supervision demonstrating proper sequence, techniques and neatness (PIM 2A).

"I" - Inspect: ability to do basic inspection while packing (PIM 2B).

"N" - Name: ability to identify major components (PIM 2B).

"T" - Tangles: ability to clear common minor entanglements (PIM 2A).

The above points are best taught in two phases. The first phase is:

1. Teach the normal pack. (pack, inspect, name)
2. Practical experiences of the normal pack, usually 6 - 10 times.
3. Practical testing demonstrating packing techniques, basic inspection and orally listing the names of the major components.

The second phase would be the "not" normal pack.

1. Teach the seven common entanglements and how to recognize them.
2. Practical experience of clearing entanglements, receiving feedback, while you supervise.
3. Practical testing demonstrating the ability to recognize and clear minor entanglements.

The Seven Common Entanglements

1. back or front flip through risers, below slider
2. back or front flip through risers, above slider
3. step through one riser, below slider
4. step through one riser, above slider
5. step through a line, below slider
6. step through a line, above slider
7. step through a cascade

Suggestions for the Coach / Instructor / Rigger

1. Make sure that you pack well first, before teaching someone else.
2. Make sure that you are using approved techniques and know the correct reasons for their use
3. Cross check with a rigger to make sure that what you do is correct.
4. Make sure that the person being checked out also knows how to do proper safety checks as well. It is actually on the skills grid before packing.
5. Teach and practice endorsement parts 1, 2 and 3 together
6. Evaluate part 1 separately, first, orally.
7. Evaluate parts 2 and 3 together, practically.
8. Teach entanglements (part 4) as a separate phase after they have learned the complete normal pack first. This will make entanglements easy to learn and understand.
9. If unsure about part 4, team-teach first with someone rated who truly knows it.
10. Make sure you teach part 4 and practice it, before you evaluate it.
11. Evaluate part 4 separately, practically, after parts 1, 2 and 3.
12. When evaluating part 4, the person being checked out should demonstrate the ability to clear several types of entanglements. Clearing one type of entanglement by trial and error is not adequate.
13. Always use PAF when teaching packing, break into lots of small steps.



14. When all 4 parts are passed, sign off the endorsement card. Be ready to stand by your decision.

15. This endorsement is required for the A CoP.

All endorsements, etc. are to be treated as a positive educational experience. They are not to be an opportunity to degrade.





Appendix – Jump Tasks

Safety procedures include gear checks before exit, regular altimeter checks during the freefall, and break-off including wave, turn & track, should be performed on every jump.

Task #1: Pin practice & horizontal separation.

Activity: novice inside on step, exit to hook-up, check stance & curve, release grips, back slide 2-3', signal novice forward to pin, repeat. With positive performance, increase distance gradually; observe regular altimeter checks & response to signals.

Presentation: basic body flight mechanics; the exit, how to move forward, docking discipline-keep some speed, no reach; communications, break-off procedure & safety.

Task #2: Fall rate control, increasing.

Activity: novice inside on step, exit to hook-up, check body position, release, drop down & back by 3' & 3'. Wait for novice to descend & pin, then repeat, gradually increasing distance if performance is satisfactory.

Presentation: curving to move down, relaxing into pressure of airflow, signals, review task #1 improvements.

Task #3: Fall rate control, decreasing.

Activity: novice outside on step, exit to hook-up, check body position, release, push up & back by 2' & 3'. Wait for novice to ascend & pin, then repeat, gradually increasing distance if performance is satisfactory. If novice encounters difficulty, send him "up" first using a signal; this provides opportunity to view body position and curve from below. This is also useful for the 4th or 5th repetition to assist in your skill analysis and feedback.

Presentation: cupping to move up, press down with knees & elbows, signals, review task #1 & 2 improvements.

Task #4: Turns about body centre (360) with pin.

Activity: novice outside on step, exit to hook-up, check body position, release; on your signal, novice performs 360; turn & pins you; repeat to same side; then repeat to opposite direction. If large separation occurs during a turn, allow novice to take note of distance, then close promptly to him. Continue turn exercise.

Presentation: body turns about centre, maintaining eye contact, direction signals for turns, review of improvements from jumps #1-3.

Task #5: Inward turn to knee dock (180). Outward turn to leg dock (90)

Activity: novice out as floater, exit to hook-up, check body position, release, turn slightly to form accordion;

a) signal novice to make 180 inward turn to place his knee in your hand while maintaining eye contact. Repeat twice, then form accordion to other side and repeat twice.

b) signal novice to make 90 outward turn to dock his knee in your hand while maintaining eye contact. Repeat twice, then form accordion to other side and repeat twice. Continue repetitions until break-off; observe regular altimeter checks.

Presentation: accordion formation, review turns about body centre, turning to dock a knee, signals, review jumps #1-4.

Task #6: Backslides, Lateral slides, left & right.

Activity: novice out as floater, exit to hook-up, check body position, release,

a) motion novice to "back-up" by sliding back, move forward to pin, repeat 2 or 3 times.

b) slide about 3' to left or right side; signal novice to follow (copy). Repeat to end of working altitude.



Presentation: tilt to move, techniques to slide sideways, visual contact, signals; review of jumps #1-5.

Task #7: Sequential docks to stationary target.

Activity: novice in the "V", exit to hook-up, check body position, release, novice to pin & release, then turn for side body & face-off, repeat to other side, then turn for back-in, then hook-up. Repeat as time allows.

Presentation: side body and back-in techniques, combining forward movement & rotation, review of previous jumps.

Task #8: Simon Says Exercise.

Activity: novice in the "V", exit to hook-up, check body position, release, signal novice to move, then follow as necessary; review activities from the 7 preceding jumps. Novice to move forward, back, down, up, sideways, and turn in position. Each action is in response to your signal; you move to continue to be in a face-off in front of him at the end of each action.

Presentation: review of actions for each type of movement; review of signals used to date; safety procedures for FS.

Task #9: Sequential docks, to moving target.

Activity: novice in the door, exit to hook-up, check body position, release, repetition of activity from #7 with you in motion rotating the opposite direction from the novice. From hook-up, both turn to side body, you turn back to catch as he backs-in, both continue to side body (compressed accordion), he faces forward as you back-in (cat), and so on. For a problem or missed grip, use a face-off & signal his turn, and pick-up from there.

Presentation: concept of "centre" of the 2-ways, continual motion towards centre, visualizing the formation from yourself being in it, concept of time (matching timing for turns).

Task #10: Sequential docks, to moving target.

Activity: novice in the door, exit to hook-up, check body position, release, from face-off, both move forward & to the side to form compressed accordion, release & back slide to make face-off, repeat to opposite side, drop grips & turn to face-off, novice turns to dock side body to left & right. Continue with accordions to left and right sides, etc. Alternate jump activity is to repeat task #9.

Presentation: combining movements (e.g. forward & sideways); starting & stopping motions, review of improvements from jump #9.

General Notes: When performing these exercises, it is your responsibility to position yourself so that your novice can practice the activity that was rehearsed for the jump. In a 3-dimensional environment, this means that you adjust for 2 of the 3 while your novice works on his ability to control the third.

Example: if he's working on up or down, you must adjust to be in the correct horizontal & lateral position.





Appendix – Coaching High performance landings

Canopy Flying

According to statistics, the ride under canopy is the most dangerous aspects of skydiving. Roughly 50% of deaths in skydiving occur after a perfectly good canopy has been obtained (USPA, 2006). With that in mind, this issue's article reviews aspects of canopy flight and things a person should be considering while flying around. While the information below may seem aimed to DZ's with larger aircraft, it is also very relevant to Cessna DZ's as all skydivers canopies eventually converge onto final for landing. It only takes two to tangle.

After deployment, it is imperative that you provide a stable platform for your parachute to launch from and your hands should be ready to grab the rear risers. As this happens, you should get into the habit of scanning the sky ahead of you rather than looking down at the ground. Odds are high that other canopies are a lot closer to you than the ground. If your canopy opens off heading you may be presented with the unexpected and if you can see it, you can at least try to avoid it; but if you are looking down you will only feel it – and it will hurt.

Once open, use your rear risers to immediately steer yourself to a flight line perpendicular to jump run. This will decrease the possibility of flying under people who left the aircraft after you, and aim you in a direction where other canopies probably are not. Continue with un-stowing your brakes and completing your canopy check. This is a good time to scan the bottom skin of your canopy for possible problems such as rips or holes. Now that you have command of your flying machine it is time to locate traffic. Look before you turn! Locate the other canopies on your load, as someone may be low and need a direct flight line to the DZ. It would be a shame if they needed to avoid you, as you were having fun, and wound up landing off the DZ in "farmer McNasty's" field or the trees.

By locating other canopies you may also have the opportunity to follow main canopies or free bags, if a cutaway occurs. Be careful if doing so. If following a main or free bag, ensure that you have a selected a safe alternate landing area well before you need to land. Now check the winds for direction and strength. Have they changed? Check the landing area for the unexpected such as vehicles, spectators or other hazards. With all that completed, now you can spend some time on your canopy tasks or just having fun with your canopy. Remember to keep a good look out. As you pass through 1500 ft you should be setting yourself up to enter the designated landing pattern or if one is not used, decide on one. This rectangular landing pattern, consisting of downwind, base and final, should not take you directly over the target unless you are under a round reserve. Depth perception is much better if there is a 3D component being visualized, and if you are directly over top of your target, you have nowhere to go except away from it. On downwind, space yourself from other canopies and if flying over or near runways, check for aircraft traffic. If needed fly a longer or wider downwind. Turn base depending on wind conditions. At all times keep on the look out for other canopies ahead of you, beside you and those above you. You never know when someone may make an error in judgment, requiring you to compensate. Turning on final you should find yourself a clear runway to land on. At this point there should be no S-turns or sashays as these manoeuvres will likely cause collisions with canopies flying behind you trying to land. If you are going to overshoot the target, accept it, look forward and land long. If you are doing accuracy, utilize angle control to place yourself closer to the target. When following other canopies to the landing area, realize that turbulence occurs in a zone directly behind and above canopies. Do not get yourself into this position! Such turbulence on final can cause your canopy to violently turn or collapse. Neither condition is a good one on landing approach. Stay to the side of the other canopies and watch out for possible



turns. Note that if you are lower than the canopy in front of you, you will be out of the turbulence zone.

If you are performing a swoop landing or other high speed manoeuvres close to the ground, have consideration of the other skydivers flying a pattern. Hopefully you have received some coaching in these manoeuvres. Many people swooping canopies are often deep in the danger zone (corner) during this manoeuvre and do not realize it. If you are applying brakes immediately after finishing your turn, or worse yet – during your turn, your turn is too late and low. Get coaching before you hurt yourself - a topic for another issue! Your manoeuvre must be completed in such a way that it does not interfere with another canopy's flight path. This includes avoidance issues as well as turbulence. Pick a landing runway away from the others so that you can enjoy that longer swoop without putting others at risk.

Fly your canopy all the way to the ground until you have stopped with both feet on the ground – preferably. Failure to fly the canopy right until you have stopped is often the cause of many knees, butt and in some cases ass over tea-kettle landings. Remember that if your canopy is still flying, you have not finished landing yet. If you are having problems with landings, have someone video a few of them and then sit down and analyze them with a Coach. Nothing says it like video. Once landed, look out behind you for other canopies in the air as you collect your canopy. Beware of walking perpendicular to the landing flight line after landing as others may have planned to land beside you. A person hitting you at 30 mph will knock you out. As you walk out of the landing area, keep your eyes on other canopies in the sky that are on final.

Now that you are back in the packing area, take a few moments to reflect on your canopy flight. Were there any events that required specific attention? If so take some time to correct them. If other people were involved, try to have a constructive conversation as to how to make landings safer. Ask advice from a Coach 2 or experienced skydiver.

An example of a progression sequence is given below:

- Light front riser approaches
- Crosswind landings 5mph winds (injuries due to trying to get back on wind line)
- 30 degree carve to flare at altitude and feel the transition
- 30 degree carve landings
- 45 degree carve to flare at altitude and feel the transition
- 45 degree carve landings
- Crosswind landings 10mph winds
- Downwind landings in 5mph winds
- 90 degree carve to flare at altitude and feel the transition
- 90 degree carve landings
- Crosswind landings 15mph winds
- Downwind landings 10mph winds
- Slowly increase angle of carve, etc





Skills Grid 2010

The traditional Skills Grid, showing the various stages of development, was updated and released in 2010 to reflect recent changes to the CoP system. It includes delineation of the Solo Certificate and each of the CoP levels.

In addition, the new Alternate Skills Grid is included. Both Skills Grid are available for separate download on the website at <http://www.cspa.ca>



PREPARATION	EQUIPMENT	INFLIGHT	FREEFALL	CANOPY CONTROL	TECHNICAL KNOWLEDGE
PRE-LEVEL.....Jump Introduction.....SSI, Jump Master or PFFI					
Physical rehearsal	Equipment components and function Activation of reserve <Reserve Proc. End.>	Seating and movement Assisted exit	Wide spread arch -	Canopy identification Flight control check Guidance response Observation of surface winds Landing techniques Ground Control Assisted	Unusual situations: in-flight under canopy on ground
Stage I.....Freefall Introduction.....Jump Master or PFFI					
Relaxation	Altimeter setting and mounting	Pre-exit handles check Verbal Review	Box position Observation circle Altimeter use Activation	Spiral Turns*(Full glide turns) above 2000' Ground Control - Partial Assistance	Box position Unusual situations: in freefall
Stage II.....Turns: Start & Stop.....Jump Master or PFFI					
Mental Rehearsal	Gearing-up procedures and adjustments	Ground Orientation Spotting - Observed	Heading control Arm exercise Leg exercise	Observation of drift Ground Control - Unassisted	Theory models: spotting freefall control
Stage III.....Turns: 90° and 180°.....Jump Master or PFFI					
Recall and Awareness Self-evaluation	Setting audible altimeter Setting AAD Full Gear Checks	Heading control Spotting assisted	90/180 turn right/left (Vertical axis Rotational control)	Stall practice & Recovery (above 2000')	Theory models: freefall math canopy flight (straight, turns, stalls)
Stage IV.....Turns: Figure 8.....Jump Master or PFFI					
Self directed instruction	Packing: introduction	Pilot briefing Spotting unassisted	360 Turn Right/Left (360° vertical axis rotation)	Rear riser turns Basic Landing pattern	Theory models: freefall control 360° turns
Stage V - SOLO Check-out					
Goal Setting	Component Ident.	Ride the Slide	Solo Check-out Jump	Basic Landing pattern	<Solo Emer. Proc. Review>
SOLO CERTIFIED					





PREPARATION	EQUIPMENT	INFLIGHT	FREEFALL	CANOPY CONTROL	TECHNICAL KNOWLEDGE
Stage VI.....Backloop.....Coach 1					
Warm-up Stretching	Packing: assisted	Exits (e.g. dive, rear float)	Backloop (360° lateral axis rotation)	Rear riser spirals (above 2000') Line of Flight Approach	Theory models: freefall control backloop line of flight approach
Stage VII.....Frontloop.....Coach 1					
Concentration	Packing: unassisted (observed)	Exits (e.g. poised, front float)	Frontloop (360° lateral axis rotation)	Set-up assessment	Theory models: freefall control frontloop
Stage VIII.....Rolls.....Coach 1					
Anticipation	Packing: clearing entanglements	Intentional unstable exit	Barrel Rolls R/L (360° longitudinal rotation)	Front riser turns Flat turns	Theory models: freefall control rolls
Stage IX.....Delta/Backslide.....Coach 1					
Solo dirt dive (Sequence preparation)	Equipment Inspection while packing	WDI, Meteorological rep.	Delta, Delta Dive	Set-up assessment with line of flight	<Night Endorsement> <not required for CoP>
Stage X.....Stag and Pike Loops.....Coach 2					
Fitness -	<Packing Endorsement> Deployment control techniques	Dive to delta exit Floater track exit	Basic Solo Free Style, Artistic and Inverted Flight E.g. French roll, stag, T, daffy, sit, stand-up	Stall turns Angle control on approach	<water endorsement> <not required for CoP>
Stage XI.....Combined Manoeuvres.....Coach 2					
Dive planning	Accessory equipment	Rate one turn Downwind spotting	Combined manoeuvres Style and manoeuvre series	Assessing/critiquing a canopy approach	Model for accuracy approach
Stage XII.....1:1 FS - Pin Practice.....Coach 2					
Relaxation	Jumpsuit selection	Spotting for FS 1:1 tight exits	1:1 Formation Skydiving Pin practice with proximity Break off procedures -	Riser manoeuvres Front Riser Spirals Rear Riser Flare/Stalls (above 2000 feet)	Advanced FS body position (mantis)
Stage XIII.....2-way FS Endorsement.....Coach 2					
Mental training techniques	Use of weights	1:1 tight exits Rehearsal with relaxation	Level control Docking procedures	Avoidance techniques	<Sport Canopy Review A> <Emerg. Proc. Rev. A>
A - CoP completed					
PREPARATION	EQUIPMENT	INFLIGHT	FREEFALL	CANOPY CONTROL	TECHNICAL KNOWLEDGE



Stage XIV.....2-way Drill Dives: Turn and Dock.....Coach 2					
Memorization	Variations to packing techniques	1:1 tight exits (variations)	Freefall grips Turn and dock	Riser flared landing	Model for three turn types
Stage XV.....2-way Drill Dives: Side slide and Dock.....Coach 2					
Group Dirt diving	Variations to packing techniques	1:1 tight exits (variations)	Side slide and dock	Assessing weather	Model for group freefall
Stage XVI.....2-way Drill Dives: Diagonal and Dock.....Coach 2					
Dive planning (review)	Variations to packing techniques	1:1 tight exits (variations)	Diagonal dock Superpositioning	Assessing terrain	Model for group exits
Stage XVII.....Partner Sequential.....Coach 2					
Stress control	Variations to packing techniques	1:1 tight exits (variations)	Relativity control Flying base Partner sequential	FS approach/rules, group approach	FS rules and courtesies in freefall
Stage XVIII.....Advanced Solo Moves.....Coach 2					
Self-directed skill development	Routine maintenance	Exit order	Advanced solo skills E.g. Sit/Inverted 360 deg	S-turn Sashay	Equipment servicing
Stage XIX.....Small Group FS.....Coach 2					
Dirt diving - review	Storage practices	Small group exit, no grips Small group exit, with grips First formation exits	Flat track Group FS	Parallel canopy flight	Maintaining the fall rate Safety for Group FS
Stage XX.....Closing Long Distances.....Coach 2					
Goal setting techniques review: SMART, short, long term goals	Equipment seminar	Large aircraft loading and spotting	Long swoop Floater tracking Recovery <Group Endorsement>	Large group pattern approach	Equipment characteristics and selection <Sport Canopy Review B> <Emerg. Proc. Rev. B>
B-CoP completed					





CSPA Skills Progression Grid – Alternate					
Progression of each of the 6 areas are independent of each other, however all stages must be completed prior to receiving your CoP.					
PREPARATION Section 2	EQUIPMENT Section 3	IN-FLIGHT Section 4	FREEFALL Section 5	CANOPY CONTROL Section 6	TECHNICAL KNOWLEDGE
PRE-LEVEL.....First Jump Introduction.....SSI					
Physical rehearsal	Components and function Activation of reserve <Emergency procedures Endorsement>	Seating and movement Assisted exit	Wide spread arch	Canopy identification Flight control check Guidance response Observation of surface winds Landing techniques Ground Control Assisted	Unusual situations: in-flight under canopy on ground
Student Progression to Solo.....Jump Master or PFFI					
Relaxation Mental Rehearsal Recall and Awareness Self-evaluation Self directed instruction	Altimeter setting and mounting Gearing-up procedures and adjustments Setting audible altimeter Setting AAD Full Gear Checks Packing: introduction	Pre-exit handles check Verbal Review Ground Orientation Spotting - Observed Spotting - assisted Pilot briefing Spotting unassisted	Box position Observation circle Altimeter use Activation Heading control Arm exercise Leg exercise 90/180 Turn left/right (Vertical axis rotational control) 360 Turn left/right (Vertical axis rotational control)	Spiral Turns (Full glide turns) above 2000' Ground Control - Partial Assistance Observation of drift Ground Control – Unassisted Stall practice & Recovery (above 2000') Rear riser turns Basic Landing pattern Flat Turn Turbulence	Box position Unusual situations in freefall Theory models: spotting freefall control freefall math canopy flight (straight, turns, stalls) freefall control 360° turns
SOLO Check-out ... Jump Master, PFFI					
<i>Goal Setting</i>	<i>Component Identification</i>	<i>Ride the Slide</i>	<i>Solo Check-out Jump</i>	<i>Basic Landing pattern</i>	<i><Solo Emergency Procedures Review></i>
SOLO CERTIFIED					



PREPARATION	EQUIPMENT	IN-FLIGHT	FREEFALL	CANOPY CONTROL	TECHNICAL KNOWLEDGE
Novice Progression -The Basics.....Coach 1					
Warm-up & Stretching	Packing: assisted	Exits (e.g. dive, rear float)	Back loop(360° lateral axis rotation)	Rear riser spirals (above 2000')	Theory models:
Concentration	Packing: unassisted (observed)	Exits (e.g. poised, front float)	Front loop (360° lateral axis rotation)	Line of Flight Approach	freefall control-back loops
Anticipation	Packing: clearing entanglements	Intentional unstable exit	Barrel Rolls R/L (360° longitudinal rotation)	Set-up assessment	line of flight approach
Solo dirt dive (Sequence preparation)	Equipment Inspection while packing	WDI, Meteorological Report	Delta, Delta Dive	Front riser turns Flat turns Set-up assessment with line of flight	freefall control-front loops freefall control-rolls <Night Endorsement> [optional training]
Novice Progression - Advanced.....Coach 2					
Fitness	<Packing Endorsement>	Dive to delta exit	Basic Solo Free Style, Artistic and Inverted Flight E.g. French roll, stag, T, daffy, sit, stand-up Combined manoeuvres	Stall turns	<water endorsement> [optional]
Dive planning	Deployment control techniques	Floater track exit		Angle control on approach	
Relaxation - advanced	Accessory equipment	Rate one turn	Style and manoeuvre series	Assessing/critiquing a canopy approach	Model for accuracy approach
Mental training techniques	Jumpsuit selection Use of weights	Downwind spotting Spotting for FS 1:1 tight exits Rehearsal with relaxation	1:1 Formation Skydiving Pin practice with proximity Break off procedures Level control Docking procedures	Riser manoeuvres Front Riser Spirals Rear Riser Flare/Stalls (above 2000 feet) Avoidance techniques	Advanced FS body position (mantis) <Sport Canopy Review A> <Emergency Procedures Review A>
A - CoP completed					





PREPARATION	EQUIPMENT	IN-FLIGHT	FREEFALL	CANOPY CONTROL	TECHNICAL KNOWLEDGE
Intermediate Skydiver Progression.....Coach 2 / Coach 2DS					
Memorization Group Dirt diving Dive planning (review) Stress control Self-directed skill development Dirt diving - review Goal setting techniques review: SMART, short, long term goals	Variations to packing techniques Routine maintenance Storage practices Equipment seminar	1:1 tight exits Exit order Small group exit, no grips Small group exit, with grips First formation exits Large aircraft loading and spotting	Freefall grips Turn and dock Side slide and dock Diagonal dock Super positioning Relativity control Flying base Partner sequential Advanced solo skills E.g. Sit/Inverted 360 degrees Flat track Group FS Long swoop Floater tracking Recovery <Group Endorsement>	Rear Riser flared landing Assessing weather Assessing terrain FS approach/rules, group approach S-turn Sashay Parallel canopy flight Large group pattern approach	Model for three turn types Model for group freefall Model for group exits FS rules and courtesies in freefall Equipment servicing Maintaining the fall rate Safety for Group FS Equipment characteristics and selection <Sport Canopy Review B> <Emergency Procedures Review B>
B-CoP completed					



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Manual Change Log

1-apr-08: added manual change log to reference manual (SM)

1-apr-08: added box on Debriefing for Process for Managing Anxiety, page 45, section 2.5.3.3 (SM)

1-apr-08: removed references to hurting during stretching exercises, page 84, section 6.1.3 (SM)

17-Jun-08: updated headers to reflect sections headings for easier searching (SM)

12-Dec-08: reformatted for publication; added header line format; added Copyright page; added new Skills Grid 2008 (SM)

March 09: added alternate Skills Grid format

24-Jan-10 (SM): updated IB, Instructor B, IA, Instructor A, CA, Certificate Administrator, LE, Logbook Examiner references

