



CYCLING INTRODUCTION TO COMPETITION COACH WORKBOOK REFERENCE MATERIALS

SKILLS & TACTICS THEORY

REVISED JUNE 2020

Canada's Cycling Associations:





PARTNERS IN COACH EDUCATION

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.



The programs of this organization are funded in part by Sport Canada.



Canadian
Heritage
Sport Canada

Patrimoine
canadien

© This document is copyrighted by the Coaching Association of Canada (2013) and its licensors. All rights reserved. Printed in Canada.

Unless otherwise indicated, images and pictures contained in this document are the property of HEMERA TECHNOLOGIES INC. They are used under license and are copyrighted.

Some images contained in this document are the property of CARDISPORT and are copyrighted.

© This document is copyrighted by the Canadian Cycling Association (2020) and Coaching Association of Canada (2003) and its licensors. All rights reserved.

The Canadian Cycling Association thanks the following for their contribution to this project:

CCA NCCP Working Group– Phil Abbott, Yannick Bedard, Mathieu Boucher, Ben Chaddock, Paul Jurbala.

*Project Leader– Paul Jurbala, **communityactive***

How to be a better coach



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



Table of Contents

Introduction	2
Getting Started.....	9
Step 1 Planning a Safe Practice	11
Reference Material: Safety and Practice Planning	24
Step 2: Teaching and Learning Cycling Skills	70
Reference Material: Teaching and Learning Skills	85
Step 3: Leading a Practice Session	122
Reference Material: Leading a Practice Session.....	167
Step 4: Race Tactics and Support in Competition	193
Reference Material: Race Tactics and Support in Competition	207
Workshop Wrap-up and Evaluation.....	233

Introduction

The Introduction to Competition Context

Introduction to Competition is the context for coaches who will primarily work with new competitive cyclists at the community and club level. These athletes will likely be in the Learn to Train to Train to Train stages of LTAD, although the context could apply to any new racer of any age. We expect these athletes to have basic but developed cycling skills and the desire to begin competing within a structured training and competition program. They should have passed through an entry-level Community Initiation or non-competitive Instruction program to help them develop the basic skills.

The key objectives for an Introduction to Competition Cycling Coach are therefore:

- Ensure participants have fun, safe, stage-appropriate experiences that make them want to continue in competitive cycling;
- Introduce participants to regular training 3 to 6 times per week;
- Introduce participants to competition in multiple cycling disciplines, within club, school or basic provincial-level competition programs;
- Assist the development of cyclists passing through their growth spurt, and be ready to modify training and competition accordingly, consistent with the LTAD Model;
- Create a foundation to prepare participants to advance to a more specialized development level of training and competition as they develop.

Outcomes for the Cycling Introduction to Competition Program

The Introduction to Competition program consists of five independent modules. The following are the learning outcomes and criteria for each Workshop module.

Make Ethical Decisions (on-line at www.coach.ca)

Ethical coaching:

- *Reflect on the importance of behaving respectfully toward participants, officials, parents, and spectators;*
- *Identify key ethical issues in common situations that can be encountered in sport, including doping;*
- *Describe a course of action for dealing with the situation that is consistent with the values and philosophy of the NCCP;*

Ready to Race! (Cycling Introduction to Competition) Foundations – 1 hour

- *Review NCCP structure and the objectives for Cycling's Introduction to Competition program;*
- *Understand the steps in completing the program and becoming a certified cycling Introduction to Competition coach;*

- *Reflect on your reasons for coaching, what is expected of you as a coach, and your coaching philosophy;*
- *Review the developmental stages of athletes, identify where your athletes are in their development, and understand what kinds of activities are appropriate for your athletes.*

Basic Cycling Skills Workshop – 8 hours

Analyze Performance

- *Analyze stages in performance of basic cycling skills, using a template;*
- *Use an observation plan and appropriate observation strategies to detect skill performance;*
- *Explain activities, and provide feedback, in a way that is consistent with the guidelines set for the age group within the cycling LTAD model;*
- *Teach basic riding skills and know how to identify and correct errors in skill performance.*

Cycling Skills and Tactics – 14 hours

Practice planning:

- *Set an appropriate structure for the practice, including warm-up, skill development, physical preparation, cool-down;*
- *Be able to modify training sessions appropriately based on developmental, physical and environmental factors;*
- *Identify risk factors that may be encountered in training and competition;*
- *Develop an Emergency Action Plan (EAP).*

Providing support to athletes in training:

- *Know the basic equipment needed for cycling and how to use it safely;*
- *Verify that facilities and equipment pose no safety risks;*
- *Coach an appropriately structured and organized training session using a practice plan listing clear goals, activities, and elements (eg cool-down, hydration);*
- *Explain activities, and provide feedback, in a way that is consistent with the guidelines set for the age group within the cycling LTAD model;*
- *Select activities and deliver feedback in a way that promotes self-esteem;*
- *Understand and demonstrate basics of working with cyclists with a disability (AWAD).*

Analyze performance:

- *Identify and correct errors in positioning if they exist;*
- *Analyze stages in performance of cycling skills, using a template;*
- *Use an observation plan and appropriate observation strategies to detect skill performance;*
- *Explain activities, and provide feedback, in a way that is consistent with the guidelines set for the age group within the cycling LTAD model;*
- *Teach riding skills and know how to identify and correct errors in skill performance;*
- *Identify and correct errors in tactical performance.*

Providing support to athletes in competition:

- *Explain the fundamental rules that govern racing;*
- *Provide advice on eating and drinking before, in and after competition and training;*
- *Provide advice on basic racing tactics;*
- *Prepare athletes for competition by assisting them to follow pre-race and post-race plans including preparation of equipment, nutrition, tactical and mental preparation, warm-up and cool-down and evaluation activities;*

Training to Race – 14 hours***Design a Sport Program/Practice Planning:***

- *Understand and apply key concepts in physical training for cyclists, including physical performance factors (i.e. flexibility, energy systems), training principles, etc;*
- *Understand and apply key concepts in mental training for cyclists, including ideal performance state, and basic techniques, such as relaxation, self-talk, etc;*
- *Design a training session that demonstrates understanding of cycling LTAD stage-appropriate activities and balances physical, mental, tactical and other needs;*
- *Design effective microcycles (weekly programs) that promote cyclist development, consistent with the cycling LTAD model;*
- *Modify daily and microcycle plans based on athlete ability and environmental factors (weather, etc.);*
- *Design and deliver a periodized seasonal training and competition program based on the cycling LTAD model;*
- *Use a multi-discipline and multi-sport approach consistent with the cycling LTAD model in design of the program;*
- *Use basic metrics (e.g. training:competition ratio, indices of training intensity, etc.) to monitor and promote athlete development and modify program as needed;*
- *Use basic physical performance tests including heart rate monitor to obtain data;*
- *Use Awareness and First Contact stages in design of programs for AWAD.*

Evaluation of the Cycling Introduction to Competition Program

Evaluation of coach competence against a set of pre-determined standards is a key component of the new NCCP. All coaches must successfully complete evaluation in order to become Certified. Generally, workshops and modules are delivered by a Learning Facilitator while evaluation is conducted by a trained Evaluator, who is a different person. However, in the case of the Skills Modules the Learning Facilitator will deliver assessment and feedback (see below).

The evaluation criteria, standards and methods are outlined in the “Outcomes, Criteria and Standards” document. In general, to achieve a learning Outcome, coaches must meet specific Criteria. Standards are used in the evaluation to determine the level to which the coach met displays competence in meeting the Criteria.

There are several types of evaluation activities in the Cycling Introduction to Competition program. These are:

Make Ethical Decisions On-line Evaluation: This component is managed by the Coaching Association of Canada as an on-line evaluation. It is required. The coach should complete this evaluation after the Ready to Race! Training Basics workshop.

Formative Assessment: Before, during and after completing the Ready to Race! Training Basics workshop, the coach will complete a variety of tasks including preparation of a portfolio of work. This will primarily include written work, such as preparation of plans or answers to scenario questions. After the Training Basics workshop an Evaluator will assess this work and provide constructive feedback. This is an assessment, not an evaluation, and is intended to support the coaches’ learning.

Basic Cycling Skills and Skills and Tactics Modules: The performance of the coach in observing, analyzing and teaching skills and detecting and correcting errors in skills and tactics will be assessed by the Learning Facilitators of these modules, and the coach will receive constructive feedback at or following the Module.

Summative Evaluation: Upon completion of all five Ready to Race! workshop modules the coach participates in evaluation. Successful evaluation is required for NCCP certification as an Introduction to Competition Race Coach. The final evaluation of the coach will involve seeing the coach “in action” and measuring his/her performance against the standards. This will occur at an event scheduled by the Provincial/Territorial Cycling Association.

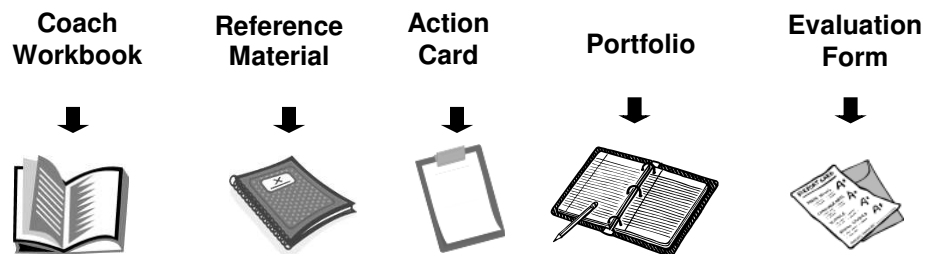
For more information on evaluation of the program, contact your Provincial/Territorial Cycling Association.

Using this Workbook

This Cycling Introduction to Competition Workshop is designed to give coaches opportunities to work with fellow coaches, learn about a variety of situations common in cycling, and practice their skills. This practice will occur in several settings: in a “classroom” environment, at a cycling venue, or on a parking lot or other surface where cycling skills can be learned and practiced.

As you advance through the Workshop, this Workbook will be used to capture your ideas and answers to a number of questions. The Workbook will also guide you to *Reference Materials* where you can find a variety of information and sample forms which you will need to prepare for and deliver a program. You will also complete work in a *Portfolio*, which will be used for all workshops in the Ready to Race! Program and will be assessed by an evaluator at different times. Finally, you can record some of the great ideas you find in the Workshop on an *Action Card*, which you should keep in front of you as the Workshop progresses.

The following symbols appear in the *Coach Workbook* and the *Reference Materials*, to help you find resources. These are also colour-coded to assist you:



Enjoy the Workshop!

Action Card

Date: _____ Location: _____

ACTIONS:

I intend to STOP... _____

I intend to CONTINUE... _____

I intend to START... _____

GREAT IDEAS:



New friends in coaching from this workshop...

For coaching tips and
more information about
coaching workshops,
visit the Coaching
Association of Canada
website at:



www.coach.ca

Getting Started

*Welcome to Coaching Cycling Skills and Tactics! As we begin, take a minute to review your preparation from the **Introduction to Competition Foundations** and **Basic Cycling Skills** modules.*

Pre-Workshop Checklist

- ☐ You have all resource materials: this Workbook and Reference Materials, a Portfolio, and a copy of the relevant Cycling Long-Term Athlete Development resource.
- ☐ You have completed the Athlete Profile in the Portfolio, for your “case study” athlete. You selected an athlete consistent with the Introduction to Competition coaching context : in their first or first few years of racing, and likely in Learn to Train, early Train to Train, or Active/Competitive for Life stages of Long-Term Athlete Development.
- ☐ You have considered the physical, mental, emotional needs of your case study athlete and other athletes you coach, with regard to their age and stage of development, background and experience in sport, and other factors. You have an understanding of what athletes of that age and stage of development can do, and what is not appropriate for them.
- ☐ You have considered how the needs of the athletes you coach fit with your own goals and philosophy as a coach. You are ready to put their needs at the center of your coaching.
- ☐ You know the importance of organizing a safe, effective practice or training session, and you’ve created an Emergency Action Plan for a typical session you lead.
- ☐ You are able to lead a session for teaching basic cycling skills, including being able to identify and correct basic errors in cycling position, analyzing stages in performance of skills, using an observation plan and appropriate strategies to detect skill performance, teaching cycling skills and identifying and correcting errors in skill performance.

Now, let’s get started!

Step 1 Planning a Safe Practice

This step is about planning a safe, effective practice, sometimes called a “training session” or “workout”. The focus in Skills and Tactics is on understanding the key parts of a practice, how to create a practice that develops skills, and safety.

As a coach, your responsibility is to lead a practice or training session which:

- Is safe;
- Is well organized;
- Meets physical needs for warm-up, development of physical performance factors, recovery and cool-down;
- Meets other learning objectives such as development of skills and mental abilities.

Review: Safety, Prevention and Emergency Response

Prevention

1. In a previous module you identified some potential risks of cycling and practice sessions. In your group, recall and review those now.
2. At the beginning of each practice, you should conduct a safety check of the venue and equipment. Review are the key areas to inspect to ensure the venue and equipment are safe.
3. Check the *Reference Material* entitled *Sport Safety Through Risk Management and Strategies For Managing Risk*. Are there any risk factors that you had forgotten?



p. [24](#) - 28

Note: Your national sport federation or your provincial sport organization may have some guidelines on the risks of your sport and some suggestions on sport-specific measures you can take to make practices as safe as possible.

Emergency Response



p. [29](#) - 33

4. When delivering a practice session, you must have an Emergency Action Plan (EAP) to guide your response in the event of an accident. Check that the EAP you created in a previous workshop is consistent with the *Reference Material* entitled *Emergency Action Plan Checklist*, the *Steps To Follow When An Injury Occurs* and *Symptoms of a concussion and Managing a participant with concussion symptoms*.

Note: *This workshop deals with the prevention of injury and the response required of you in the event of an injury. It does not prepare you to make a medical intervention with an injured player. It is highly recommended that you take a first-aid course or have someone who has first-aid training on site with you at all times during practices.*

Practice Objectives: What to Train?

Now that you are prepared to run a safe practice, the next step is to consider what to include in your practice session.

Cycling requires a number of physical, mental and motor learning (or skill) capacities. These capacities, called “Key Performance Factors” (KPF) can be developed through training to improve overall performance. A practice session is used to develop one or more KPF.

How will you decide what to train, and that your participants are getting the right workload for each KPF they need to train, in each practice session?

1. Complete the chart in titled “Demands of Cycling” on the next page. (This chart is also in your Portfolio.)
2. Select one Key Physical Performance Factor to develop in your practice session and list it here:

Physical Performance Factor: _____

3. Now select a cycling skill. Choose one that can be developed in the same practice session. For example, if you chose “Speed” or “Speed-endurance” for your physical performance factor, “Starting” would be a good skill to choose. For road cycling, if you chose “Aerobic power” then “Riding an echelon” could be a complimentary skill. You can see a list of cycling skills in the *Reference Material*

Skill to train: _____

DEMANDS OF YOUR CYCLING EVENT (2 pages)

Physical Abilities

Physical ability	This means the ability to...	Actions or situations in my event that require this ability	Importance in my event (low, med, or high)
Speed	Perform quick movements or cover a given distance in the shortest possible time <i>(e.g., all-out efforts lasting up to 8 seconds)</i>		☐ Low ☐ Moderate ☐ High
Speed-endurance	Sustain efforts at near maximum speed for as long as possible <i>(e.g., very intense efforts lasting between 10 and 60 seconds)</i>		☐ Low ☐ Moderate ☐ High
Aerobic power	Sustain a maximum dynamic effort over an extended period of time <i>(e.g., efforts lasting longer than 3-5 minutes)</i>		☐ Low ☐ Moderate ☐ High
Aerobic endurance	Sustain a very long duration, moderate dynamic effort over a period of hours.		☐ Low ☐ Moderate ☐ High
Maximum strength	Make a muscle or muscle group generate the highest level of tension during a maximum contraction, regardless of its length		☐ Low ☐ Moderate ☐ High
Speed-strength	Perform a muscle contraction or overcome a resistance as fast as possible <i>(normally very brief efforts of 1 or 2 seconds or so)</i>		☐ Low ☐ Moderate ☐ High
Strength-endurance	Perform repeated muscle contractions at intensities below maximum strength <i>(15 to 30 repetitions or more)</i>		☐ Low ☐ Moderate ☐ High
Flexibility	Perform movements of large amplitude at a joint, without sustaining an injury		☐ Low ☐ Moderate ☐ High

Motor Abilities

Motor ability	This means the ability to...	Actions or situations in my sport that require this ability	Importance in my sport (low, med, or high)
Coordination	Perform movements in the correct order and at the right time		() Low () Moderate () High
Balance	Achieve and maintain stability, or keep control of the body during the execution of movements		() Low () Moderate () High

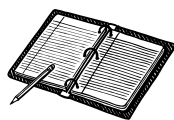
Tactical ability

Ability	This means the ability to...	Actions or situations in my sport that require this ability	Importance in my sport (low, med, or high)
Decision-making	Analyze a situation and produce a correct response, i.e. one that gives a competitive advantage and/or increases the probability of a good performance		() Low () Moderate () High

Readiness of Your Athletes

*Now that you have considered the demands of the sport and event, you need to think about what skills and abilities your athletes are ready and able to develop. This was discussed in the **Cycling Introduction to Competition Foundations** module.*

Not all athletes are ready to effectively develop every Key Performance Factor. The ability of an athlete to develop a KPF, the length of time to spend on developing the KPF, etc. depends on the readiness of the athlete.



Portfolio



LTAD



p. 39 - 41

1. Review the “Athlete Profile” you filled out in your Portfolio. Based on their profile, refer to the Long-Term Athlete Development (LTAD) framework. What LTAD stage do you think your athlete is in?

LTAD stage: _____

2. Check the *Reference Material* entitled *Where Community Sport Fits*, and *What To Emphasize Or To Avoid At Various Ages*. Can the KPF you chose be developed or avoided (because they are unsafe, or because the athletes’ bodies will not yet respond to this type of training)? Modify your selections if needed.

3. Now check the specific suggestions for training session (practice) duration in the LTAD framework. How long should your session be? *Hint: if you are planning a session for earlier in the season or your athlete is less experienced, choose a duration at the low end of the range.*

Duration: _____

Logistics of Your Practice

4. Use the table provided below to describe the facilities and time available to you for your practices.

- What facilities do you need for your practices?
- What days and times are players available to practice?
- What restrictions do you have on your use of facilities? (e.g. facilities are only available for my group in the evenings, we have to share the gym with another group, etc.)

Facilities	Days/times available	Restrictions

Training in Groups

5. A frequent challenge for cycling coaches is that athletes of different age or stage and ability train together. What is the range for your training group?

- Age range: from _____ to _____ years old
- Experience in cycling: from _____ to _____ years
- LTAD stages include: _____

Planning A Practice – Building Your Plan

*Now that you have gathered the information you need, you can spend some time planning a practice for your athletes. Use the basic skill you identified earlier. Make sure your plan takes into account the logistics of your practice, safety and the stage of development of your players. Use the **Practice Planning Worksheet** in this workbook.*

The Structure Of Your Practice



p. [60](#) - 62

1. Check the *Reference Material* entitled *The Structure Of A Practice And Key Elements To Plan In Each Part*. As you develop your practice plan, be sure to follow this basic structure (introduction, warm-up, main part, cool-down, conclusion).

Planning An Activity To Develop A Basic Skill



p. [64](#) - 65

By this point you are familiar with the overall needs and abilities of athletes as they develop. Now consider what stage your athletes are at in the development of a specific skill. Take a look at the *Reference Material* on *Activity Planning Guidelines For Various Stages Of Skill Development*.

1. Indicate the stage **most of your athletes** are at for the skill you have chosen to develop through your activity. Also, indicate what evidence enables you to reach this conclusion. Write down your answers in the table below.
2. Your athletes' abilities may be spread across several stages of skill development (e.g. from *Initiation* to *Consolidation*). For the activity you have described, is there another stage of skill development **some athletes** are at? If so, which one is it? Add to the table below.

	Evidence that enables you to reach this conclusion
Stage of development most of your athletes are at for this skill () Initiation () Acquisition () Consolidation () Refinement	
Stage of development the second largest number of athletes are at for this skill () Initiation () Acquisition () Consolidation () Refinement	

Adapting Your Activity: Develop A Basic Skill So That It Also Develops A Physical Ability



p. [63](#)

3. In the *Reference Material*, refer to the section entitled *Training Athletic Abilities: Key Points*.

Using these guidelines, analyze the characteristics of the activity you have designed. Given the type of effort athletes are doing, which athletic ability (KPF) appears to be trained?

4. Now, refer to the table where you have identified athletic abilities that can be trained and others that should be avoided given the age of your players. Is the athletic ability trained through your activity appropriate for the age of your players? **YES** () **NO** ()

5. If you answered **YES**, modify your activity if necessary to make it as consistent as possible with the proposed guidelines for the training of this particular athletic ability. If you answered **NO**, modify your activity so that it develops an athletic ability that can be trained given the age of your players. Modifications made to your activity must suit the majority of your players.

6. **Individual reflection:** *The goal is to describe how your activity could be planned so that it develops a basic skill AND develops an athletic ability adapted to the age of your athletes AND can be easily modified for different skill levels within your group of athletes. However, this may not always be possible, and some activities that are designed primarily to develop a skill may not lend themselves to training an athletic ability as well. What was challenging, considering your activity and athletes?*



p. [64](#) - 67

7. Discuss with another coach how you changed your activity to (1) meet the skill level of your athletes and (2) also train a physical ability adapted to their age. Be sure to clearly point out how your modifications match the *Reference Material* entitled *Activity Planning Guidelines For Various Stages Of Skill Development*.



8. **ACTION CARD** - Use your action card and make note of what you will do differently in the future when planning an activity that can contribute to developing both a skill and a physical ability required in your sport, while at the same time taking into account the proficiency level and the age of your athletes.

Putting It All Together - Making Your Practice Fun, Motivating and Challenging!

1. We all talk of the importance of making practices fun and motivating for the athletes, but what does this really mean? Complete this sentence in as many ways as you can:

Athletes are motivated at practice when...



p. [68](#)

2. Check your notes with those of other coaches, and consult the *Reference Material* entitled *Five Criteria To Develop Challenging Activities That Motivate Athletes To Learn*. Can you add ideas to your list?



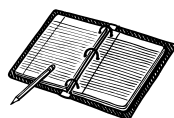
Workbook
p. 21 - 22

3. Using *Practice Planning Worksheet*, design a practice that is consistent with the work you have done throughout this workshop. Use the *Planning A Practice – Self-Evaluation Checklist* at the back of this section to guide your planning. Also, take into consideration the guidelines that apply to the age group that you coach and the abilities you want to train.

4. Once you have finished, pair up with another coach and assess each other's practice based on the criteria in the checklist and the information in the growth and development guidelines.



5. **ACTION CARD** - Compare the practice you designed earlier in this step with the one you just designed. Note the changes that you have made and/or aspects you will now consider when planning practices in the future. Note any final remarks or ideas with regard to practice planning that you may have.



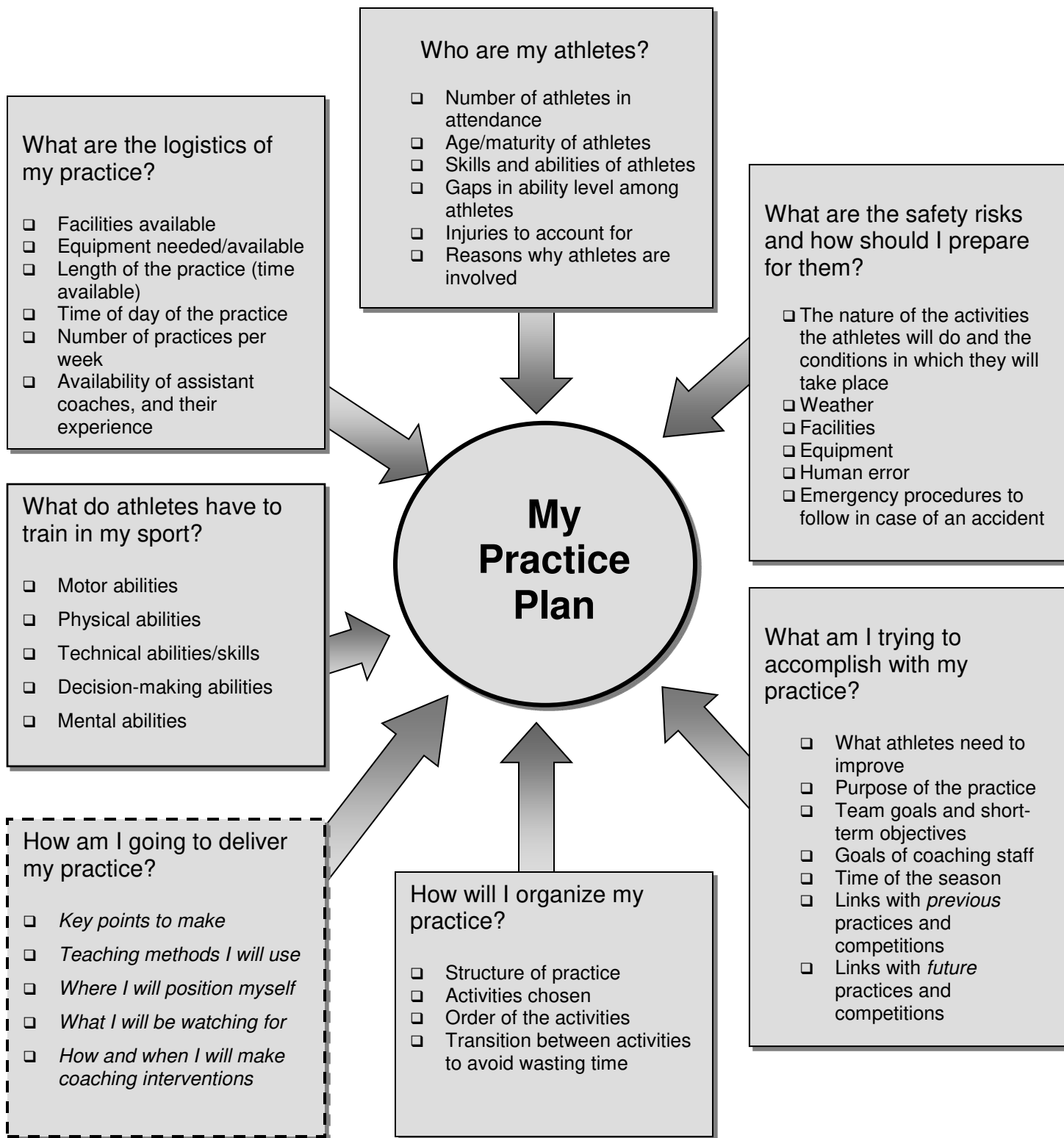
6. Finally, transfer your completed practice plan to your *Portfolio*. (This may be done after completion of this Workshop.)

Review – Your Planning Decisions

1. When you were planning your practice (above), aside from your logistics, what questions did you ask yourself (i.e. what information did you need to be able to plan your practice)?

[illegible]

2. Share your ideas with other coaches, and see what you can add to your own list of important questions to consider when planning a practice.
3. Use the diagram below and check the information you considered when you designed your practice. Are there any points you may have forgotten to consider and that you may want to take into account when planning a practice in the future?



PRACTICE PLANNING WORKSHEET

DATE:

TIME: from

to

LOCATION:

GOAL(S):

EQUIPMENT NEEDED:

Introduction

Key messages/safety points

Include general and specific warm-up, and stretching exercises

Key messages/safety points

Warm-up

Pay attention to the order of the activities

Key messages/safety points

Main part

Equipment needed

Cool down

Key messages/safety points

Conclusion

PLANNING A PRACTICE: SELF-EVALUATION CHECKLIST



Structure and organization

- ☐ The practice is organized and well structured (introduction; warm-up; main part; cool-down; conclusion).
- ☐ The duration of the practice is appropriate for the age and ability level of the participants/athletes.
- ☐ Full use is made of available facilities and equipment to achieve the practice goals.
- ☐ Activities are designed so there is minimal waiting time for athletes during the practice.
- ☐ The transition from one activity to the next is planned in such a way as to minimize the time wasted.
- ☐ In the main part of the practice activities are sequenced optimally relative to each other.

Nature of the activities

- ☐ The practice includes a variety of activities.
- ☐ Participants have sufficient practice time during each activity.
- ☐ The activities have well-defined goals, and the purpose of the tasks involved is clear.
- ☐ The activities are adapted to the skill and fitness level of the participants.
- ☐ The activities are appropriate to the growth and development stage of the participants.
- ☐ Practice conditions are adapted to the stage of skill development the participants are at.
- ☐ The activities are relevant to the sport.
- ☐ The activities present exciting and reasonable challenges to the athletes, and are chosen or designed so that the success rate by the participants when performing the task is about 65-70%.

Safety

- ☐ Potential environmental, mechanical, and human risk factors have been considered, and the activities are designed accordingly.
- ☐ An Emergency Action Plan is available.

Cycling Skills and Tactics

Reference Material: Safety and Practice Planning

Sport Safety Through Risk Management

By its very nature, physical activity can present some risk of injury. One of the key responsibilities of the coach is to manage the potential risks that present themselves during practice or competition.

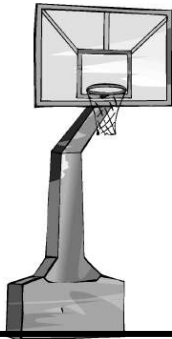
The main risk factors can be categorized as follows:



Environmental risks

Factors related to the weather and/or its effects on the site or location where the sport takes place.

Examples: Lightning, rain, puddles/mud on the playing surface, heat and humidity, cold



Equipment and facilities risks

Factors related to the quality and operating conditions of the equipment and the facilities

Examples: a ski binding that does not release, ill-fitting helmet, damaged gymnastics apparatus, debris on the playing surface



Human risks

Factors related to the participants and to the people who are associated with them, such as parents, coaches, officials, and event organizers. Human risks may also be related to a participant's individual characteristics (e.g. height, weight, level of physical preparation, ability) or behaviour (e.g. carelessness, panic, aggression). Human factors related to coaches include their training and experience, their supervision of the participants, as well as their decisions they make about situations in which they place the participants.

Examples: matching participants of uneven strength and ability in a combative sport, forgetting to spot a gymnastics participant

Strategies For Managing Risk

Information to gather	Actions to take
• Risks of the activity • Participants' medical information • Participants' contact information in case of emergency • Facility safety checklist • Past injury reports <i>Sample forms are provided in appendix</i>	• Planning • Designing an Emergency Action Plan • Inspecting equipment and facilities • Informing participants and parents • Supervising activities

Information to gather

- Phone numbers and addresses of the participants, their parents, the ambulance service, the police force, the fire department and the public safety service.
- Medical conditions of each participant (e.g. illnesses, allergies, disabilities, injuries), whom to contact in an emergency situation, and what the procedures should be in the event of an emergency (e.g. intramuscular injection with an EpiPen® for a severe allergic reaction, giving a specific medication).

Keep this information in a waterproof binder that you can carry with you to the training or competition site.

Find out if 911 services are accessible from your facility or if there is medical support on site.

Actions to take

Planning

- Ensure that the activities are appropriate for the age, fitness, and ability level of the participants.
- Ensure that the practice starts with a warm-up, and that the activities include a reasonable progression and challenge for the participants.
- Adjust activities for participants who cannot perform them as planned for the larger group.

Designing an Emergency Action Plan

- Guidelines for designing an Emergency Action Plan appear in this document.

Inspecting equipment and facilities

- Ensure that you are fully aware of the specific safety standards related to the equipment used in your sport.
- Take an inventory of collective and individual equipment.
- Take an inventory of available first aid equipment. Carry a first aid kit at all times.
- Assess the safety of the facility itself (e.g. walls, playing area, lighting) by completing a facility safety checklist.
- Identify environmental, equipment and facilities and human risk factors.
- Ensure that the participants wear their protective equipment and that it is properly adjusted and in good condition.

Informing participants and parents

- Inform the parents and the participants of the risks inherent to the sport.
- Properly explain the safety procedures and instructions related to all activities, and check that the participants understand them.
- When giving explanations for an activity during a practice or during competition, highlight potential risks.

Examples: If participants are required to cross paths, ask them to keep their heads up and to be alert to where others are as they are moving around; if it has just rained and your team is practicing on wet grass, remind your participants that the field is slippery.

Supervising activities

- Ensure that the number of participants involved is not so high as to compromise adequate supervision and safety.
- Keep in mind that participants need to be constantly supervised. Stop all activities when you have to leave the room or site.
- Look for signs of fatigue and aggression in participants and, if necessary, stop the activity.
- Stop the practice if you have to leave the site for any reason, or delegate responsibility for the group to a competent person.

Summary:

Preventing sport-related injuries - what to do and when to do it

Before the season
• Have a medical profile completed for each participant • Inform parents of possible risks • Ensure facilities and equipment meet established safety requirements • Create and fill in a facility safety checklist • Review last season's injuries and/or common injuries in your sport
During the season
Before a practice or competition • Inspect equipment and facilities • Meet with the officials • Prepare an Emergency Action Plan • Plan specific safety measures for the practice/competition During a practice or competition • Inform participants of specific safety measures relating to activities, facilities, and equipment • Ensure there is proper supervision • Evaluate participants • Ensure that fair play principles are followed After a practice or competition • Store equipment safely • Fill in an accident report if necessary
After the season
• Keep an accident/injury report log

[Return to Workbook p. 10](#)

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 the facility or site where you normally hold practices and for any facility or site where you regularly host competitions. For away competitions, ask the host team or host facility for a copy of their EAP.

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 with you (facility manager, fire, police, ambulance) as well as contact numbers (parents/guardians, next of kin, family doctor) for the participants.
4. Have on hand a medical profile for each participant, so that this information can be provided to emergency medical personnel. Include in this profile a signed consent from the parent/guardian to authorize medical treatment in an emergency.
5. 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.
6. Have a first aid kit accessible and properly stocked at all times (all coaches are strongly encouraged to pursue first aid training).
7. 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
- Training venues
- Home venues
- Away venues
- List of emergency phone numbers (home competitions)
- List of emergency numbers (away competitions)
- Change available to make phone calls from a pay phone

Directions to access the site

- Accurate directions to the site (practice)
- Accurate directions to the site (home competitions)
- Accurate directions to the site (away competitions)

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 in the first aid kit.*
- *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 (p.1 of 2)

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

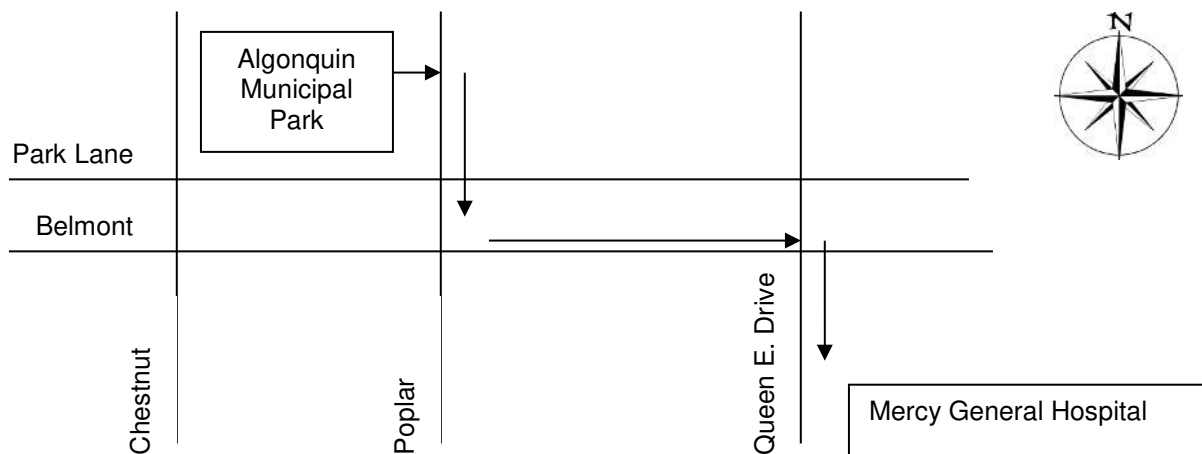
Address of home facility: Algonquin Municipal Park
123 Park Lane,
between Chestnut St. and Poplar St.
City, Province/Territory XXX XXX

Address of nearest hospital: Mercy General Hospital
1234 Queen Elizabeth Drive
City, Province/ Territory XXX XXX

Charge person (1st option): Suzy Chalmers (coach)
Charge person (2nd option): Joey Lemieux (assistant coach)
Charge person (3rd option): Angela Stevens (parent, nurse, usually on site)

Call person (1st option): Brad MacKenzie (parent, cell xxx-xxxx)
Call person (2nd option): Sheila Stevens (parent, cell xxx-xxxx)
Call person (3rd option): Stefano Martinez (parent, cell xxx-xxxx)

Directions to Mercy General Hospital from Algonquin Municipal Park:



Sample Emergency Action Plan (p.2 of 2)

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**
- ☐ **Designate who is in charge of the other participants**
- ☐ **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**

Call person

- ☐ **Call for emergency help**
- ☐ **Provide all necessary information to dispatch (e.g. facility 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**

Steps To Follow When An Injury Occurs

Note: it is suggested that emergency situations be simulated during practice in order to familiarize coaches and athletes with the steps below.

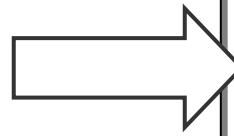
Step 1: Control the environment so that no further harm occurs

- 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



*Activate
EAP!*

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

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 off the playing surface. 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: Record the injury on an accident report form and inform the parents

Head Injuries And Concussions: Guidelines For Coaches

NB: The following information is presented as a series of guidelines only. Head injuries must be treated by a recognized medical professional.

Introduction

Head injuries and concussions can occur in many sports, either in training or during competitions. Because of the potentially grave consequences of injuries to the head, coaches must take certain precautions and should enforce strict safety measures when dealing with them.

The information contained in this section is not designed to train coaches on how to implement a medical treatment or to offer medical advice in the event of a concussion. Rather, its purpose is to provide some recommendations on how to manage situations involving head injuries in a responsible manner. It is important to note that there is presently a lack of consensus in the medical community regarding precise grading scales and return to training or competition criteria following concussions.

What is a concussion?

A concussion is an injury to the brain that results from a hit to the head, or to another part of the body that allows the transmission of impact forces to the head. It shows itself through a temporary alteration in the mental status of the individual, and may also be accompanied by some physical symptoms.

Some common causes of concussions

The situations that may result in head injuries vary greatly from sport to sport. Producing a comprehensive list of possible causes is therefore difficult. However, some common causes include:

- direct blows to the head, face, jaw, or neck
- collisions from the blind side, or hits from behind
- hard fall on the buttocks, or whiplash effect
- poor quality of protective sport equipment (shock absorption), failure to wear protective equipment designed for the head, or improper adjustment of the same
- the environment (e.g. obstacles near playing surface)
- significant differences in the skill level, age, or size of participants involved in activities with physical contact or risk of impact
- poor physical condition, or insufficient strength in the neck and upper body musculature.

Symptoms of a concussion

Symptoms observed in the case of a concussion include headache, dizziness, loss of consciousness, nausea, lethargy, memory loss, confusion or disorientation (lack of awareness of time, place, date), vacant stare, lack of focus, ringing in the ears, seeing stars or flashing lights, speech impairment, balance impairment, and problems with sight.

Other signs may include a major decrease in performance, difficulty following directions given by the coach, slow responses to simple questions, and displaying inappropriate or unusual reactions (laughing, crying) or behaviours (change in personality, illogical responses to sport situations).

A person can suffer from a concussion without losing consciousness.

Managing a participant with concussion symptoms

The following short-term measures should be implemented in the event that a participant suffers a concussion:

- An unconscious participant, or an participant with significant changes in mental status following a head injury, must be transported to the emergency department of the nearest hospital by ambulance. This is a grave situation, and the participant *must be seen by a medical doctor immediately*. In such a situation, the *Emergency Action Plan must be implemented*.
- A participant showing *any* of the concussion symptoms should not be allowed to return to the current practice or competition.
- A participant showing concussion symptoms must not be left alone, and monitoring for the deterioration of his/her condition is essential. He/she should be medically evaluated as soon as possible following the injury. The circumstances of the injury should be recorded and communicated to the medical personnel.
- If any of the concussion symptoms reoccur, the participant's condition should be considered serious, and the individual *must* go immediately to the hospital.

Managing the participant's return after a concussion

Although a participant may have been given the authorization to return to regular training and competition, this must be done gradually. The participant must be re-evaluated periodically during the weeks that follow his/her return, to ensure that there are no reoccurring symptoms.

Below are a series of steps to assist coaches in managing the return to training or to competition of a participant who has suffered a concussion. Each step should take at least one day, although proceeding through each step may take longer depending on individual circumstances (Step 5 applies predominantly to sports that involve body contact).

- Step 1:** No activity, complete rest; if no symptoms are observed for one full day, move to Step 2.
- Step 2:** Low-intensity continuous exercise, such as walking, jogging, or cycling on a stationary bicycle; if no symptoms are observed, move to Step 3.
- Step 3:** Low-intensity, sport-specific activity without contact; if no symptoms are observed, move to Step 4.
- Step 4:** Moderate-intensity sport-specific training activities without body contact; if no symptoms are observed, move to Step 5.
- Step 5:** Regular practice with body contact if it is required by the sport (no hard impact); if no symptoms are observed, move to Step 6.
- Step 6:** Return to regular training and to competition.

If symptoms do reoccur, the participant must immediately stop any form of activity and be examined by a medical doctor before resuming training or competition. It is extremely important for the participant, the coach, and the medical personnel to be open and frank when evaluating the participant's condition. If reoccurring symptoms are not disclosed, the participant may suffer permanent damage.

Repeated concussions

Some data suggest that after a first concussion, a person might be more at risk of suffering from concussive injuries in the future. If a participant has a history of repeated concussions, he/she should participate in sport activities only when *full clearance* to do so is obtained from a medical professional.

NB: This information is based on the summary and agreement statement of the first international symposium on concussion in sport held in Vienna in 2001, and on a brochure produced by Judo Canada, entitled "Safety First - What You Need To Know About Concussions." The Coaching Association of Canada is grateful to the Concussion in Sport Group and its chair, Dr. Karen M. Johnston, Division of Neurosurgery, McGill University Health Centre, and to Judo Canada's sport director, Andrzej Sadej, for permission to adapt this material. The Coaching Association of Canada also wishes to express its thanks to Dr. Johnston for reviewing this text.

Risk management

Risk management is defined as “reducing the chances of injury or loss by taking steps to identify, measure, and control risks.” This means that the coach spends time thinking about potentially risky situations, decides which situations might pose serious risks, and determines what practical steps he/she can take to minimize those risks. The common ingredient in all these tasks is common sense.

There are four strategies for controlling risks, all of which are important to the coach:

- **Retain the risk** – the risk is minor and it is inherent in the sport activity, and the coach is willing to accept the consequences, so he/she does nothing about the risk. In sport, this is often a legitimate risk-management strategy.
- **Reduce the risk** – the risk is moderately significant and the coach takes measures to reduce the likelihood of the risk occurring, or the consequences if it does occur, through careful planning and supervision and education of participants.
- **Transfer the risk** – the risk is significant and it is transferred to others through contracts, including waivers and insurance.
- **Avoid the risk** – the risk is severe and the coach decides to avoid whatever may cause the risk.

A word of caution for coaches: there is no template, formula, or checklist for managing risk. The law expects coaches to provide a safe environment for participants, but what that means for a coach’s conduct will vary with the circumstances, including the age and skill level of participants and the environment in which the coaching activity occurs.

The coach's personal risk management plan

The informed and prudent coach protects himself/herself by implementing a personal risk management plan. This plan helps the coach on two fronts: first, it will promote a safe program and help to prevent injuries from occurring, and second, when an injury cannot be prevented, it will help to protect the coach from liability claims.

Coaches can, and should, practice their own personal risk management by following this ten-point plan:

1. Be familiar with and adhere to applicable standards, both written and unwritten, as well as internal policies and rules governing the facility, the sport, and your program.
2. Monitor your participants' fitness and skill levels, and teach new skills in a progressive fashion suitable to their age and skills. Never leave young participants unsupervised.
3. If you do not have access to medical personnel or a qualified trainer, keep adequate first aid supplies on hand; ideally, you should be trained in administering first aid.
4. Develop an Emergency Action Plan for the facility or site where you regularly hold practices or competitions. Carry with you, at all times, emergency contact numbers and participants' medical profiles.
5. Inspect facilities and equipment before every practice and competition and take steps to ensure deficiencies are corrected immediately, or adjust your activities accordingly to avoid the risk.
6. Work with your employer or sport organization to use appropriately worded "assumption of risk" agreements in your programs and, where appropriate, in settings involving adult participants, "waiver of liability" agreements.
7. You should be covered by the liability insurance policy of your employer (if you are remunerated for your coaching services) or your organization (if you are a volunteer coach). Confirm that this is the case. If it is not, obtain your own insurance.
8. Do not be afraid to stop or withdraw from any activity that poses unreasonable risks, including stopping a practice or removing your team or your participants from a competition.
9. Trust your common sense and intuition!
10. Actively pursue your own training, professional development, and coaching certification.

[Return to Workbook p. 10](#)

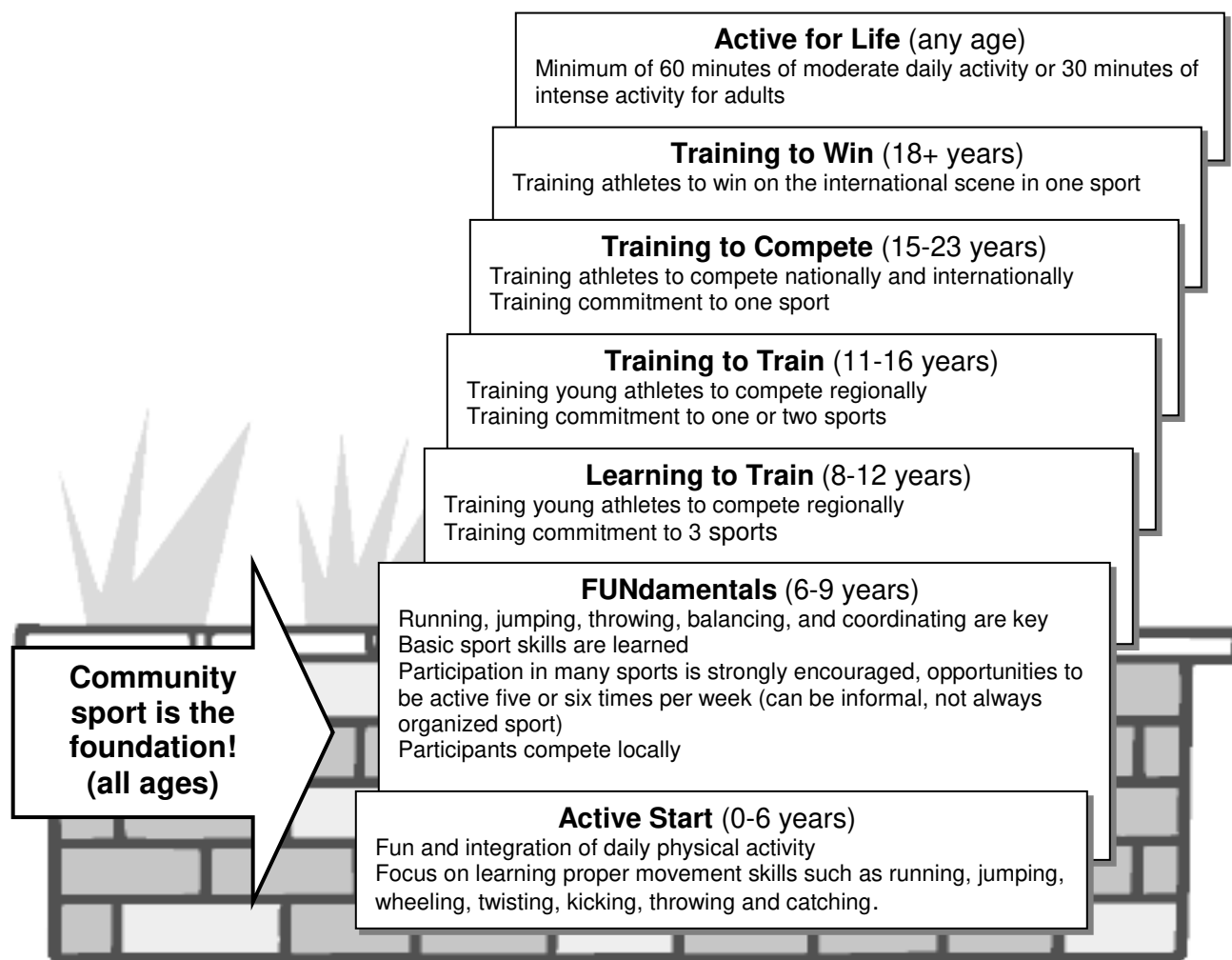
Where Community Sport Fits in Athlete Development*

Community sport represents most participants' entry point into sport. It is often in community sport that participants first develop basic sport skills and abilities, and where the foundation for athlete development takes place. There are participants of all ages involved in community sport because, over time, they will choose to either:

- increase their training commitment to a sport and progress to the Training to Train stage in one or two sports
- move back and forth between an increased commitment stage and community sport as their abilities, interests, peer groups, personal priorities, and opportunities change
- stay in community sport into adulthood and participate for the fun and fitness.

It is part of healthy child development to explore different sports. Experience has shown that:

- a focus on FUNdamentals and participation in many sports at early ages is key to elite performance as adults in sports where champions are generally 20+ years old (called "late specialization sports" – all team sports and most individual sports fall into this category)
- emphasis on a single sport at an early age does not result in better performance in that sport as an adult than a person who played multiple sports at a young age
- emphasis on a single sport at an early age often results in burnout and dropout.



* This information is based on *Long-Term Athlete Development – Canadian Sport for Life*.

What To Emphasize Or To Avoid At Various Ages: General Training Recommendations Based on Growth and Development Guidelines

The table in the following page outlines the athletic abilities that should be emphasized or avoided at various ages for male and female athletes. In this table, the following legend is used:

Females (F) Males (M)

☹	Training of this quality to be avoided at this age
	Training of this quality can be done at this age, but should not be considered a priority
	Training of this quality can be done with moderation at this age
☺	Training of this quality is optimal at this age
	Training of this quality should be done in function of the needs of the sport at this age

Important notes to coaches:

1. The recommendations contained in the following table represent the opinion of experts in the fields of growth and development and training; as such, they apply to most sports. However, for some sports in which athletes specialize at a very young age, such as Gymnastics, some of these recommendations may seem to differ from certain training approaches commonly used. If this is the case, we invite coaches to (1) exercise judgment both in the interpretation of the present guidelines and in the implementation of sport-specific training methods and (2) consult with recognized experts where necessary, in order to ensure that the training activities performed by the athletes are appropriate, safe, and adapted to their physical maturity.
2. At the same chronological age (i.e. 12 years of age) there can be a significant degree of variability in the physical maturation level of kids. When referring to the guidelines outlined in the following table, it would not be unusual to have situations where some athletes are ahead of, or behind, the general training guidelines by 2 or more years.
3. Legend: ☹ should be avoided ☺ optimal training age
☐ not a priority ☐ in moderation ☐ as needed by the sport



Athletic ability	Age (in years)															
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Aerobic stamina (short efforts 10-15 min)	F									😊	😊	😊	😊			
	M										😊	😊	😊			
Aerobic stamina (prolonged efforts)	F	😞	😞	😞	😞	😞	😞						😊	😊	😊	
	M	😞	😞	😞	😞	😞	😞	😞					😊	😊	😊	
Speed-endurance	F	😞	😞	😞	😞	😞										
	M	😞	😞	😞	😞	😞										
Strength-endurance	F	😞	😞	😞							😊	😊	😊	😊		
	M	😞	😞	😞							😊	😊	😊	😊	😊	
Maximum strength	F	😞	😞	😞	😞	😞	😞	😞	😞	😞			😊	😊	😊	
	M	😞	😞	😞	😞	😞	😞	😞	😞	😞				😊	😊	
Speed-strength (power)	F	😞	😞	😞	😞	😞	😞	😞	😞			😊	😊	😊		
	M	😞	😞	😞	😞	😞	😞	😞	😞	😞			😊	😊	😊	
Flexibility	F							😊	😊	😊	😊	😊	😊			
	M								😊	😊	😊	😊	😊	😊	😊	
Speed (efforts of 8 seconds or less)	F									😊	😊	😊	😊			
	M										😊	😊	😊	😊		
Speed (fast cadence of movement)	F	😊	😊	😊	😊	😊	😊	😊								
	M	😊	😊	😊	😊	😊	😊	😊								
Coordination / Agility / Balance	F	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊					
	M	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊				
Basic techniques	F			😊	😊	😊	😊	😊	😊							
	M			😊	😊	😊	😊	😊	😊	😊						
More advanced techniques	F									😊	😊	😊	😊			
	M										😊	😊				
Tactics	F	😞	😞	😞												
	M	😞	😞	😞												

Return to Workbook p. 14

3-5 Years, Growth and Development of Participants (1 of 2 pages)

General remarks		
• Cannot see the difference between what is real and what is not • Lives in an imaginary world • Constantly imitates • Highly dependent on parents • Needs to have a well-established routine in daily activities		
Psychosocial		
• Highly individualistic, even egocentric • May be afraid of strangers • Boys and girls may be involved in the same activities without any problem		
Learning		
• Period of life where significant progress is seen in areas such as ability to learn, intelligence, and language; is capable of understanding concepts such as age, time, space, and morality (good-bad) • Limited ability to concentrate (very short attention span); difficulty understanding abstract concepts • Limited ability to reason and solve problems • Cannot take into account most of the information or stimuli from the environment		
Physical		
• Growth rate is slightly reduced compared to the first two years of life; body proportions become more balanced; head is fragile • Resting heart rate and heart rate during exercise higher compared to adults • Development of the nervous system takes place at a very high rate during this period; growth of the brain is approximately 75% completed at three years of age, and 90% at the age of six • Hand-eye coordination is improved, as well as speed/rhythm of execution of fundamental movements; increased control of movements, which nonetheless remain somewhat jerky • Motor performance is highly linked to kinesthetic and touch senses • At age five, activities such as walking or running are usually well mastered and can be incorporated into games; 35 metres can be run in approximately 10 seconds		

3-5 Years, Growth and Development of Participants (2 of 2 pages)

Preferences
• Likes activities that stimulate several different senses and the imagination • Likes simple games with easy-to-understand tasks and rules • Prefers individual activities, yet will share his or her environment of play with others
To avoid
• Any activity that is structured or requires attention • Activities that feature repeated impacts or where there is a risk of collision • Repetitive activities (to prevent boredom and also overuse injuries) • Exposure to a cold or a hot environment • Comparisons with other children • Emphasizing the result or performance
Suggestions
• Activities that feature a variety of motor experiences, and where the emphasis is put on the kinesthetic sense (i.e. knowledge of the body and location of body parts in space) • Simple explanations and provision of manual assistance to the child during the execution of the movement • All activities should take the form of games • The instructions and the teaching must be specific, simple, and aimed at a very clear objective • Creation of small groups where activities take the form of games, with focus on psychomotor development (balance, coordination, movements in all directions, various forms of movement). Where possible, parents should be involved, thus creating an opportunity to consolidate a close relationship with the child through play • Children need to be praised and complimented generously and regularly for their efforts



6-7 Years, Growth and of Participants (1 of 3 pages)

General remarks

- At this age the child remains fairly individualistic and self-centred; needs a lot of attention and must be in the company of an adult and/or in a small group
- High dependence on parents
- Acknowledges the coach as the leader
- Needs to have a well-established routine in daily activities
- Has no athletic or competitive background
- Interest for sport activities may begin to grow



Psychosocial

- Rather individualistic; often tries to expand social circle and the number of friends, especially with individuals of the same sex
- Sometimes shy
- Is conscious of own feelings and emotions, and of those of others toward him/her; can play on these feelings to obtain privileges
- Boys and girls can be involved in the same activities without difficulty

Learning

- Learns best by observing, quickly followed by doing
- Short attention span (a few minutes)
- Ability to reason is limited to what is readily observable
- May be afraid of the unknown
- Is likely to imitate and be highly imaginative; is often curious and wants to know everything

6-7 Years, Growth and Development of Participants (2 of 3 pages)

Physical

- Development of the nervous system is almost complete
Rate of physical growth is constant, yet relatively slow; on average, little difference is observed between boys and girls with regard to height and weight
- Head is still very fragile; bones, tendons, muscles, and ligaments cannot sustain heavy loads
- Always seems to be moving; coordination is not very well developed; endurance is low
Resting heart rate and heart rate during exercise are higher than for adults; resting heart rate is approximately 100 bpm
- Aerobic metabolism predominates during effort; low anaerobic capacity
Sweating mechanism of children is not well developed, which reduces their capacity to dissipate heat during exercise; children are at an increased risk of heat injuries; children cool off rapidly, and do not tolerate cold well

Preferences

Enjoys individual activities, with some interaction with the group (e.g. tag); likes to throw, catch, hit, kick, run, jump, climb, and other activities where the whole body is involved

- Enjoys all types of activities that require imagination or involve imitating an adult
- Games should encourage creativity and have few rules

To avoid

- Activities that require repeated impact or wherein there is a risk of collision
- Repetitive activities and activities that feature too much structure (to prevent boredom and also overuse injuries)
- **Exercising in a very cold or hot environment**
- **Using equipment that is not designed for children (i.e. too big, too heavy)**
- **Specialization in a sport or in a position**
- **Repetition of all-out efforts lasting between 20 and 60 seconds; work against a high resistance; prolonged aerobic endurance efforts**
- Emphasizing the result or performance
- Negative competitive experiences
- Comparisons with other children
- Lengthy explanations
- Negative criticism



6-7 Years, Growth and Development of Participants (3 of 3 pages)

Suggestions

- All activities should take the form of games; conditions in which activities or games take place should be varied to promote the development of a variety of motor patterns and skills
- **Rules should be adapted to encourage a high degree of interaction between and involvement of participants, and to increase the probability of success during the activity; modified, scaled-down equipment should be used**
- Demonstrations should be highly specific, simple, and aimed at the achievement of a well-defined objective; duration of activities should be relatively short, and exercises should change frequently
- Children need to be praised and complimented generously and regularly for their efforts; feedback should focus on one point only; choose the most important one; children should be encouraged to be proud of their own performance, and to congratulate others for theirs
- Basic motor abilities should be developed through games; techniques should be introduced in ways that stimulate the child's imagination (e.g. refer to a funny situation of the child's life, a cartoon)
- Encourage children to drink water, and in hot conditions, ensure that there are plenty of beverages available

Examples

- Relay or obstacle races
- Somersaults, pirouettes, jumps, runs, lateral movements, rope climbing, rope skipping, use of play structures, sliding, throwing, catching, passing a ball with hands or feet; hitting a ball**
- Basic strength exercises using the child's own body weight (push-ups, pull-ups, squats with own body weight)

8-9 Years, Growth and Development of Participants (1 of 3 pages)

General remarks

- Has a high degree of imagination; being active is very important; likes to work, learn, and accomplish things
- Still needs a well-established routine in daily activities
- Wants to act on his/her own; does not like conventions or norms, but will accept the coach's instructions if there is a sense that he/she participates in the establishment of the rules and conditions governing the activity
- Very little or no athletic background
- Interest in sport activities is often high
- Some early developers may be entering puberty, particularly girls.

Psychosocial

- Is still individualistic and self-centred, but shows an increasing interest for the group; wants to be accepted by others, and usually shows a great deal of loyalty toward the team
- Needs praise and positive feedback
- Is conscious of own feelings and emotions, and of those of others toward him/her; can play on these feelings to obtain privileges
- Boys and girls may be involved in the same activities without difficulty
- Seeks the approval of others; may reject opportunities to interact with individuals of the opposite sex

Learning

- Accepts following instructions to learn faster, and reacts favourably to positive feedback/praise; ability to concentrate and to pay attention is relatively good; can begin to make some generalizations
- The emphasis should be on motor development and the learning of skills in a variety of sports
- It is possible to start teaching the rules of the game and fundamental tactical principles
- Is capable of assessing the angles of moving objects (e.g. balls), yet may still have some difficulty distinguishing between right and left
- Ability to reason and solve problems is limited to what can be observed

8-9 Years, Growth and Development of Participants (2 of 3 pages)

Physical
- Physical characteristics are similar to children aged 6-7, but coordination and stamina are better; growth rate is slow, which tends to allow for a greater degree of motor control and autonomy - The development of the nervous system is almost complete - Reaction time is slow; shows an increased ability to make coordinated and quick movements - Large muscle masses (e.g. the legs) show a greater degree of development compared to smaller ones (e.g. arms, hands) - Very little potential for increased muscle mass (hypertrophy); strength gains result primarily from increased coordination and neural factors - Resting heart rate and heart rate during exercise are higher than for adults; aerobic metabolism predominates during effort and anaerobic capacity is low The sweating mechanism of children is not well developed, which reduces their capacity to dissipate heat during exercise; children are at an increased risk of heat injuries
Preferences
- Enjoys individual or group games, and drills where participants are paired - Likes activities where the whole body is involved (e.g. jumping, running) - Likes to assume some responsibility, and to take part in decisions relating to games or activities played - Prefers activities that will allow him/her to shine and to be successful
To avoid
Activities that feature repeated impacts or where there is a risk of collision; repetitive activities (for reasons of boredom but also to prevent overuse injuries); activities that are too structured Mechanical and/or highly repetitive approach to the teaching of fundamental techniques; use of equipment that is not designed for children Repetition of all-out efforts lasting between 20 and 60 seconds; work against a high resistance; prolonged aerobic endurance efforts Exposure to a cold or hot environment Specialization in a sport or for a position Emphasizing winning and creating a pressure to perform Comparisons with other children Negative competitive experiences - Lengthy explanations - Negative criticism

8-9 Years, Growth and Development of Participants (3 of 3 pages)

Suggestions

- Establish guidelines for acceptable behaviour, and act in a constant and predictable manner; however, accept each child unconditionally
- Children need to be praised and complimented generously and regularly for their efforts; feedback must focus on one point only; choose the most important one; emphasize the following: development of confidence, self-esteem, peer interaction, cooperation, having fun, putting winning and losing into perspective, and giving a 100% effort
- Demonstrations must be highly specific, simple, and aimed at the achievement of a well-defined objective; duration of activities must be relatively short, and exercises must change frequently
- **Focus on activities that are aimed at developing coordination, balance, and proper motor patterns; encourage participation in a variety of sports and activities; encourage the use of both right and left hands and feet whenever possible to enhance motor patterns and improve coordination; good age to use speed games**
- Modified, scaled-down equipment should be used; competitive games where ability levels are matched; create opportunities for the child to demonstrate the progress he/she has made in a way that will enhance self-image; participants should have the opportunity to take some responsibility, and to assess the impact of such decisions; rules should be adapted to encourage a high degree of interaction between and involvement of participants, and to increase the probability of success during the activity
- Encourage children to drink water, and ensure that plenty of beverages are available when exercising in the heat

10-11 Years, Growth and Development of Participants (1 of 3 pages)

General remarks

- **Develops conscience, morality, and values**
- May display a highly competitive attitude (wants to look like a competent performer)
- Marked distinctions between boys and girls begin to be visible, particularly toward the end of this period
- May want to break free from the authority of adults, and may show a defiant attitude
- Athletic background may be highly variable among participants; participation in sport activities is often done on a seasonal basis, in programs that can be relatively short (a few weeks)
- Time devoted to general training and acquisition of a variety of skills and motor patterns should be greater than time spent training for a specific activity, or preparing for, or being engaged in, competition

Psychosocial

- Is usually very interested in group activities, and creates strong links with a few friends
- Wants to enjoy a greater degree of autonomy, and wants to help
- Shows a high degree of loyalty to the group
- Begins to be interested in individuals of the opposite sex, without showing it openly
- Expresses his/her feelings easily (e.g. anger, sadness)
- Boys and girls can be involved together in the same activities

Learning

- Child begins to show some ability to deal with abstract concepts, yet prefers concrete examples
- Emphasis should still be on general motor development and the learning of skills in a variety of sports, however fine motor control improves during this period
- It is possible to start teaching a few specialized techniques, as well as fundamental tactical principles; the rules of the games should be well understood
- Capacity to concentrate increases (can stay focused for approximately 10 minutes at a time)

10-11 Years, Growth and Development of Participants (2 of 3 pages)

Physical

- Strength and endurance gains are possible as a result of fitness training, but improvements are also directly related to growth; very little potential for increased muscle mass (hypertrophy). Strength gains result primarily from increased coordination and neural factors
- Flexibility improves but it should also be trained
- Reaction time is relatively slow, however good visual acuity and depth perception allow for better performance in throwing/catching exercises
- **Sweating mechanism of children is not well developed, which reduces their capacity to dissipate heat during exercise; children are at an increased risk of heat injuries**
- In girls, the second half of this period marks the beginning of a major growth spurt that will last approximately 3.5 years; some girls may have their first menstruation as early as 11 years old
- In some boys, puberty will begin at the end of this period.

Preferences

- Enjoys games that feature some competition, team games, as well as activities that require some form of effort or that represent some sort of a physical challenge

To avoid

- **Activities that feature repeated impacts or where there is a risk of collision; repetitive activities (to prevent boredom and also overuse injuries); activities that feature too much structure; exposure to a cold or hot environment**
- **Use of equipment that is not designed for children; repetition of all-out efforts lasting between 20 and 60 seconds; work against a high resistance; prolonged aerobic endurance efforts**
- **Specialization in a sport or for a position on the team**
- **Emphasizing winning and creating a pressure to perform**
- **Comparisons with other children**
- **Unpleasant or non-gratifying competitive experiences**
- Mechanical and/or highly repetitive approach to the teaching of fundamental techniques

10-11 Years, Growth and Development of Participants (3 of 3 pages)

Suggestions

- **Participation in several sports/activities should be encouraged**
- Rules should be adapted to encourage a high degree of interaction between and involvement of participants, and to increase the probability of success during the activity; modified, scaled-down equipment should be used
- Demonstrations should be highly specific, simple, and aimed at the achievement of a well-defined objective; duration of activities should be relatively short, and exercises should change frequently
- Time when participants are actively involved in activities during practices should be maximized
- **Children need to be praised and complimented generously and regularly for their efforts**
- **Feedback should focus on one point only; choose the most important one; emphasize the development of confidence, self-esteem, peer interaction, cooperation, having fun, putting winning and losing into perspective, and giving a 100% effort**
- **Encourage children to drink water, and ensure plenty of beverages are available when exercising in the heat**

12-15 Years, Growth and Development of Participants (1 of 3 pages)

General remarks
• Period where major growth spurts occur; in each sex, large differences in physical maturation may be observed in individuals of the same chronological age; in general, girls are more mature than boys • Acquires moral concepts, values, and attitudes that make it possible to relate meaningfully to society; positive role models are important • Opinion of friends tends to be more important than that of the coach; participants want to look like, or be perceived as competent performers • This is a period of major change during which participants are likely to challenge authority, be very critical, question decisions, and ask for justification • Competition becomes increasingly important to some participants; time devoted to general training should be greater than time spent training specifically for a sport, or time spent competing
Psychosocial
• It is important to separate boys and girls for activities and competition • Emotional instability may be observed due to the rate at which physiological changes occur • Shows a greater desire for independence; this can be a time of rejection of parental authority and, in general, a period when there is a high degree of confrontation with adults • Develops close relations with individuals of both sexes; enjoys being more independent, and having more responsibility; a great deal of interest toward sexuality is observed toward the end of this period • This period is important for the development of values such as respect for others, fair play, and a work ethic
Learning
• Begins to think like an adult. It is important to take into account the different maturity level between boys and girls; interests and abilities differ between the sexes; challenges are often very appealing • Needs change on a regular basis; is highly curious; capacity to concentrate increases (can stay focused for 20 minutes or more at a time); increasingly capable of abstract thinking • This is a good period to consolidate the development of fine motor skills, to teach more complex tactical notions, and to encourage decision-making in specific situations • Specialization by sport and for a position can begin; however, participation in a variety of sports that have different demands should be encouraged

12-15 Years, Growth and Development of Participants (2 of 3 pages)

Physical

Girls: The development of secondary sexual characteristics (pubic hair, breasts) begins around 11-11.5 years of age. On average, the growth spurt begins shortly thereafter. Maximal growth rate (or peak height velocity, PHV) is normally observed between 11.5 and 12.5, and menarche (first menstruations) occurs approximately one year after PHV. During this period, body fat content tends to increase progressively, and typical female body forms (hips) appear due to hormonal effect. As a result of these changes, performance often plateaus or may even decline for a short period of time. In addition, for a period of several months following menarche, girls may have difficulty sustaining heavy training loads. Girls should be counselled that this phenomenon is normal, and that their performance will improve after this temporary phase.

Boys: The development of secondary sexual characteristics (pubic hair, testes, penis size) occurs progressively around age 11. On average, the growth spurt begins at age 13, and PHV is reached at around age 14-15. Significant gains in muscle mass and in strength typically occur one year after PHV (i.e. at around ages 15-16) due to higher levels of testosterone; this age represents a good time to initiate strength training with heavier loads if this athletic ability is important in the sport.

- During the growth spurt, feet and hands tend to grow first, followed by the legs and the arms; long bones are fragile during this time; growth is accompanied by an increase in body weight throughout the period
- As a result of the rapid growth spurts that occur during PHV, body parts can be disproportionate; this can have a direct effect on coordination and the ability to perform certain skills that were well mastered before
- This period is well suited for the development of aerobic fitness, as well as flexibility
- Strength and speed-endurance training can begin toward the end of this period

Preferences

- Enjoys challenges and the opportunity to accomplish individual feats
- Accomplishment of actions that are likely to be looked at or admired by peers/friends
- Activities that contribute to the development of fine skills/dexterity and that do not require too much strength (i.e. racket sports, swimming, golf, skiing), team games, situations where some form of competition exists

To avoid

- **Repetition of all-out efforts lasting between 20 and 60 seconds before or during PHV; work against a high resistance; prolonged aerobic endurance efforts that involve impact on the joints (i.e. running on a hard surface such as asphalt); repetitive activities (to prevent boredom and also overuse injuries)**
- **High mechanical stress (compression forces) on the long bones and the backbone, e.g. lifting heavy weights**
- Programs where the number of competitions is greater than the number of practices
- Pressure to perform
- Negative competitive experiences

12-15 Years, Growth and Development of Participants (3 of 3 pages)

Suggestions

- Time when participants are actively involved in activities during a practice should be as high as possible
- Acquisition of more complex or sport-specific techniques; explanations can be more elaborate, where appropriate
- Correct execution of movements must be emphasized if strength training is performed
- Appropriate supervision of training activities is important to prevent unnecessary risks that adolescents may take
- Games emphasizing skill and dexterity
- Opportunities to meet or interact with sport role models (athletes or coaches); competitions or tournaments that involve trips; social activities among the team/training group
- When an athlete or participant who has reached puberty experiences pain in the joints (e.g. shoulders, elbows, knees), or if he or she now seems to have difficulty completing workouts that could previously be sustained with no difficulty, training loads (amount-frequency-intensity) may have to be decreased to avoid undue stress on the athlete's body
- Depending on the maturity level, involvement of the adolescent in roles such as officiating, or the leadership of certain activities (e.g. leading a warm-up or cool-down)

16-17 Years, Growth and Development of Participants (1 of 2 pages)

General remarks
• At the end of puberty, the individual is no longer a child, but is not completely an adult yet, which can create some identity problems • Late developers may still be experiencing the effects of puberty • The participant seeks greater autonomy, and progressively becomes more mature emotionally • Specialization in a sport or for a position may require year-long preparation; however, training may remain a seasonal process, particularly at the beginning of this period • Training volume increases progressively from one year to another, and may reach 15 hours or more per week, depending on the sport, at the end of this period • In participants who are training seriously, the amount of time devoted to general training, specific training, and preparing for competition or competing is approximately the same
Psychosocial
• Sexuality becomes very important and participants seek intimacy with others • Although a greater degree of independence is sought, friends remain very important • Wants to be considered an adult • Often, the coach will be a role model; the participant will frequently reject parental authority • Participants become increasingly aware of their own values • Social activities are very important
Learning
• Social awareness increases, and as a result participants develop a broader range of behaviours; participants also develop the ability to think logically • Period when participants begin to specialize in particular sports, and develop broader strategic and tactical awareness
Physical
• Major physiological systems and functions are established; appropriate time to develop aerobic capacity; significant increase in strength and anaerobic capacity (endurance-speed) • Training of power and speed can be done • Increase in muscle mass in boys, due to the increased production of certain hormones, in particular testosterone • Growth in girls typically ends at 17-18 years, and at 19-20 years in boys

16-17 Years, Growth and Development of Participants (2 of 2 pages)

Preferences
• Prefers to play the full game or activity, i.e. without modification of the rules or conditions of play • Prefers activities that contribute to improving physical appearance or to creating a particular status in the eyes of peers (e.g. sport, art, theatre) • Group activities become important (e.g. movies, dances, parties, travel)
To avoid
• Development of certain muscle groups while ignoring antagonists (e.g. developing the quadriceps but not the hamstrings)
Suggestions
• Delegate certain tasks, provide opportunities for the participant to solve technical-tactical problems and improve decision-making • All athletic abilities can be trained and developed, relative to the degree of physical maturity of the individual • Strength-endurance can be trained with no reservations based on the demands of the sport; if increased muscle mass is an important goal to achieve given the sport, this can be accomplished through strength training programs using moderate loads in sets of 8-12 repetitions; all major muscle groups should be developed to avoid muscle imbalances (<i>note: major increases in muscle mass should not be expected in females</i>) • Strength training with very heavy weights (1-5 repetition maximum, or RM) can be done by both sexes, but with caution and under the guidance of experienced coaches • Include sessions dealing with officiating, strategy, and tactics • Creating an assistant coaching role for some appropriately qualified participants may improve self-esteem and peer acceptance • Important time to work at developing respect for others, and concepts like fair play and work ethic • Provide opportunities for participants to observe and meet role models

18 Years and Older, Growth and Development of Participants (1 of 2 pages)

General remarks
• Major physiological systems and functions are established, which allows for the training of all athletic abilities • Self-assured; chooses own path and goes out on his/her own • Resists involvement in situations which may question self-image as an independent person • The need to achieve may lead the participant to strive for improved performance • General training time may be reduced as the serious participant concentrates on specialization and preparation for competition
Psychosocial
• Professional and family obligations lead to much less free time • Intimate relationships are very important • Financial independence provides greater opportunity for choice • May become a member of a group of close friends
Learning
• Adults over 25 years of age often have experience in a broad range of activities (e.g. sport, work, education) which can greatly improve learning and the transfer of knowledge and experience from one area to another
Physical
• Young men stop growing at around 20 years of age • The individual may expend significant energy and time raising children and working • Strength, speed, and power are at their peak in the early 20s, and may be maintained through to the early 30s • Endurance reaches its peak towards the late 20s; after the age of 30, physical capacities begin to decline progressively
Preferences
• Activities that help relieve stress
To avoid
• Nothing; all abilities can be trained

18 Years and Older, Growth and Development of Participants (2 of 2 pages)

Suggestions

- Interaction with others is important and may take the form of participation in seminars, workshops, or sport training camps
- Individuals may seek roles and responsibilities in the management, organization or promotion of activities and events
- Becoming a coach, official, or referee is one way of keeping this group engaged and committed, and also offers the opportunity for social interaction
- Engage in competitive activities and events in practices

The Structure of a Practice

A well-structured practice has five parts:

The introduction: The coach prepares the site and equipment, welcomes the athletes, and informs them of what will be taking place during the practice. This is also a good time to assess the general status of the athletes (e.g. Have they recovered from the previous practice?).

The warm-up: The coach plans activities that gradually activate the athletes and prepare them physically and mentally to effectively perform the main part of the practice. The warm-up consists of two parts: (1) general and (2) specific. The general warm-up aims to raise the body temperature until it is sweating, to allow for progressive muscle stretching. The specific warm-up, designed for the particular sport, aims to prepare the warmed muscles for the types of movements to be performed in the main part, and therefore the movements should mimic those of the main part, gradually building in intensity and range of motion.

The main part: The coach ensures a smooth flow of activities that are challenging for the athletes, and that help them to improve sport-specific abilities and fitness. The activities chosen must be not only appropriate for the sport, but also for the athletes' age, fitness, and ability levels.

The cool-down: To initiate the recovery of the body, the coach plans low-intensity transition activities between the more intense efforts of the main part and the end of the practice. The coach also plans for some time to stretch.

The conclusion: The coach provides some comments on the practice as well as an opportunity for feedback from athletes. The coach ensures the practice ends on a positive and friendly note. Some information about the next practice or game is also provided.



The Structure Of A Practice - Key Elements To Plan In Each Part



<i>Practice Part</i>	<i>Time</i>	<i>Key Elements</i>
Introduction Purpose is to greet athletes and let them know what will be taking place	<i>variable</i> <i>2-3 min</i>	Before practice begins: ➤ Inspect facilities ➤ Organize equipment ➤ Greet each athlete ➤ Assess the energy level of each athlete At the beginning of practice: ➤ Review the goals of the practice and the activities planned ➤ Give safety instructions specific to the activities planned
Warm-up Purpose is to prepare the body for the efforts that will be produced during the main part	<i>5-10 min</i> <i>8-15 min</i>	General warm-up: ➤ General exercises or games to loosen muscles and raise body temperature ➤ Progressive stretching Specific warm-up: ➤ Brief activities that athletes already know that mimic the movements of the main part (may even be the same activity, but at lower intensity) ➤ A gradual increase in intensity that will not tire the athlete ➤ A quick transition between the end of the warm-up, the explanations/instructions given for the first activities of the main part, and the activities themselves

Practice Part	Time	Key Elements
Main part Purpose is to engage athletes in activities that will help them to improve sport-specific abilities and fitness	<i>Variable; usually 30-60 min or more</i>	3 or more activities linked in the proper order (see suggestions on page 88) ➤ Activities that challenge the athletes so that they can learn and improve while enjoying themselves ➤ Athletes engaged most of the time in an activity (i.e. not standing around or waiting in line) ➤ Athletes allowed lots of practice for each activity ➤ Activities that are adapted to the age, fitness, and ability levels of the athletes and are relevant to the sport
Cool-down Purpose is to begin recovery	<i>5-10 min</i>	➤ A gradual decrease in intensity ➤ Stretching, especially of those muscles most used
Conclusion Purpose is to debrief and inform about next practice or competition	<i>3-5 min</i>	➤ Provide and ask for feedback on what went well and suggest how improvement can be made ➤ Inform about the next practice or competition (e.g. logistics, goals and emphasis) ➤ Speak with each athlete before he/she leaves

[Return to Workbook, p. 16](#)

Training Athletic Abilities: Key Points

Athletic ability	To improve this athletic ability, the activity must have the following features or characteristics:
Speed	• Movements or actions performed at maximal speed or near maximal speed <u>AND</u> • Movements or actions identical to those in which speed improvement is sought <u>AND</u> • Efforts of short duration, i.e. less than 5 to 8 seconds <u>AND</u> • Long recovery between efforts, i.e. 8 to 10 times longer than the effort itself. Note 1: Training no longer effective when intensity or quality of execution decreases. Note 2: Total time of all repetitions = 30 seconds to 2 minutes.
Speed-endurance	• Movements or actions performed at near maximal speed <u>AND</u> • Movements or actions identical to those in which speed-endurance improvement is sought <u>AND</u> • Efforts comprised between 10 and 60 seconds <u>AND</u> • Recovery between efforts is. 6 to 8 times longer than effort. Note: Total time of all repetitions = 2 to 5 minutes.
Aerobic stamina	• Repeated high intensity dynamic efforts performed without interruptions for more than 2 or 3 minutes each <u>OR</u> • High intensity steady-state efforts performed for 10-15 minutes or more <u>OR</u> • Moderate intensity steady-state efforts performed for 30 minutes or more <u>OR</u> • High intensity intermittent efforts of 15 seconds to 2-3 minutes followed by pauses of equal or shorter duration for 20 to 30 minutes or more. Note: The more intense the efforts, the greater the training effect on maximum aerobic power.
Maximum strength	Note: In many cases, the sport itself does not provide good opportunities to develop this athletic ability. See detailed guidelines.
Speed-strength	• Movements or actions that require jumping, bounding, or quick pushing <u>OR</u> • Movements or actions that require accelerating objects as quickly as possible.
Strength-endurance	• Repeated muscle contractions that are sustained for several seconds <u>OR</u> • Several sub-maximal muscle contractions performed consecutively at a constant rate.
Flexibility	• Controlled movements of large amplitude <u>OR</u> • Controlled movements in which the muscles are stretched, and where the position is maintained for 20 to 40 seconds. Note: No external force should be exerted on the limb or the articulation.
Coordination	• Activities that involve a sequence of actions that must be performed in a given order. Note: Improvements more likely to occur if activity is performed when the athlete is not tired.
Balance	• Activities where difficult or unusual positions must be assumed and maintained <u>OR</u> • Activities where “normal” movements are performed in unusual positions <u>OR</u> • Activities where balance is challenged by external factors, or that require an effort to maintain balance.
Tactics	• Situations that are relevant to the competitive experience <u>AND</u> • Situations that involve decision-making in order to gain an advantage <u>AND</u> • Situations that involve some degree of uncertainty <u>OR</u> • Situations where the best option must be selected.

NB: Activities and methods to improve mental abilities are dealt with in another NCCP workshop.

[Return to Workbook p. 17](#)

Activity Planning Guidelines For Various Stages Of Skill Development: Characteristics Of The Activities And Appropriate Practice Conditions

- As indicated in the table entitled “Stages of Skill Development and needs of athletes at each stage,” the needs of athletes differ depending on the stage of skill development they are at. Athletes’ needs should guide the goals you have for practices that aim at developing skills.
- For practices that aim at developing skills, you should ensure that the goals, as well as the activities in which the athletes are involved are adapted to the needs of the athletes, and that the conditions in which these activities take place also match the athletes’ capabilities. Selecting or designing appropriate activities, and identifying suitable conditions in which they take place, are therefore critical steps in planning your practice.
- In addition, you will likely have to allow for the fact that not all athletes are at the same stage of skill development. This can be dealt with by planning different activities for different groups of athletes, or planning distinct practice conditions that are adapted to different athletes.
- Activities and tasks that the athletes will do during a practice can be planned in many different ways. Athletes can perform (1) the whole skill, or parts of it only (2) many repetitions without rest, or rest for varying amounts of time in between repetitions and/or (3) the same task several times in a row, or do distinct movements or actions each time either in a predictable order, or in a random order.
- The most effective activities/tasks, types of practice, and/or practice conditions may also vary according to the skill to be learned (open, closed, discrete, serial, or continuous) and/or the stage of skill development the athletes are at. Additional adjustments may be necessary to take into consideration the age of the athletes.

Planning guidelines for activities and practice conditions that support skill development at various stages are proposed in the following pages.

NB: Technical and tactical abilities to train, and the priority in which they should be trained at various ages and levels of competition are available through your National Sport Federation through its Athlete Development Framework.

Skill Development: Key Points

- When learning a skill, athletes progress through some predictable stages. The table on the following page outlines some key concepts about the stages of skill development, and the needs of the athlete at each stage.
- While each athlete can be expected to go through each stage, the time and the amount of practice necessary to progress from one to the next can vary greatly from one athlete to another.
- The stages of skill development described in the following table (initiation, acquisition, consolidation, refinement, and creative variations) apply regardless of the type of skill or how it is classified.
- It is important that you recognize the stage of skill development your participants are at, as well as the specific needs they have at each stage, and that you plan your practice accordingly (i.e. that you select the right types of activities and the appropriate way to run them).

Note: It may take months or even years of practice for an athlete to reach the “Refinement” stage as defined in the shaded area of the following table. Also, the vast majority of them will never reach the “Creative variations” stage. Consequently, at the “Introduction to Competition” level, few coaches work with athletes who achieve an advanced stage of skill execution. Therefore, the focus should be on ensuring the fundamentals are correct, and that they can be performed in a variety of situations and conditions.

Activity Planning Guidelines For Various Stages Of Skill Development

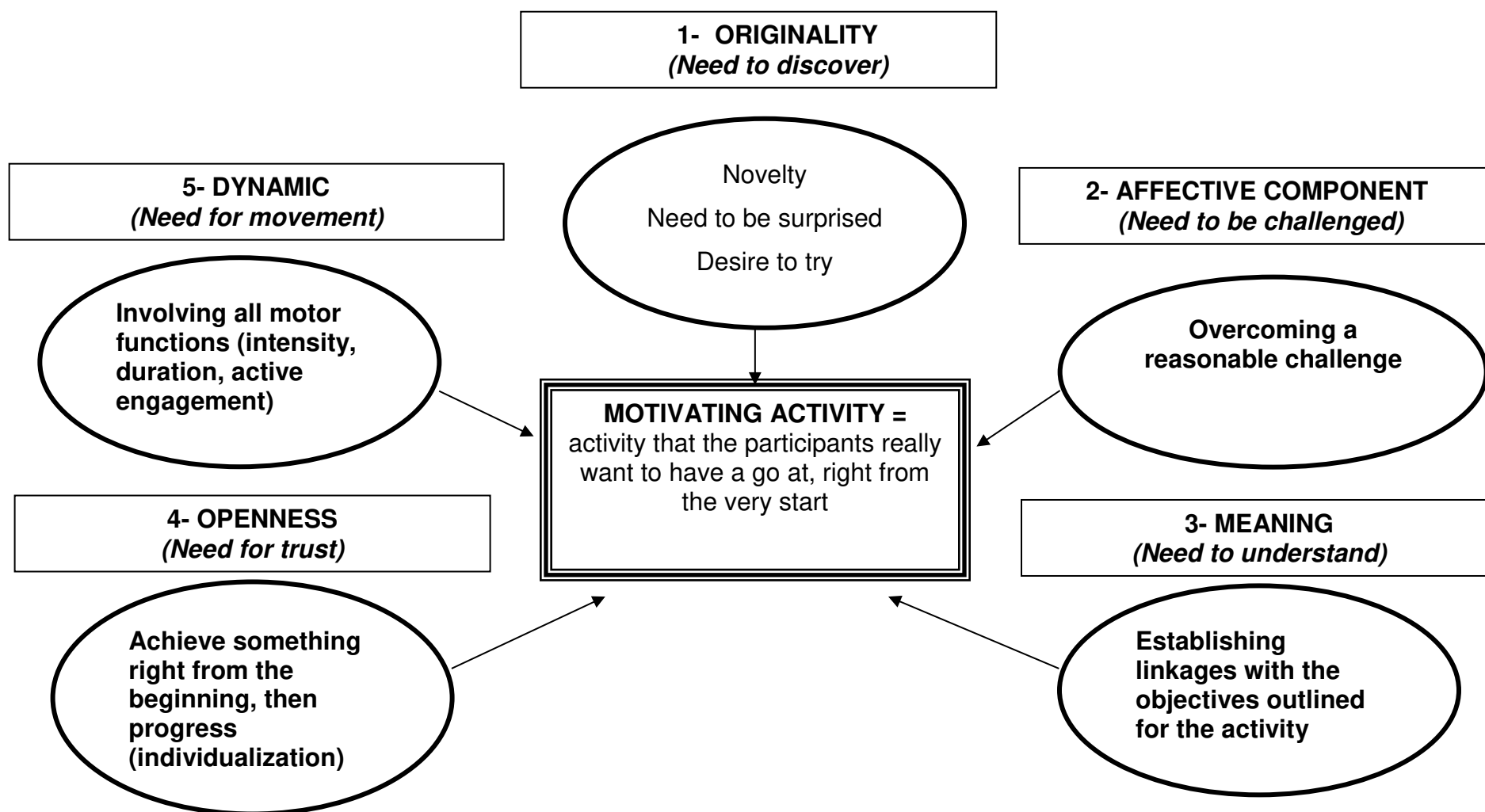
Recommended practice conditions	Stages of Skill Development				
	Initiation First contact	Acquisition Movement patterning	Consolidation Correct execution in variable conditions	Refinement Minor improvements	Creative variation Inventing new movements
Surrounding environment	Stable and predictable, free of distractions	Stable and predictable, free of distractions	Increased variability and distractions in the environment, but not to the point where movement patterns deteriorate	Competition conditions	Conditions similar to those encountered in the highest level of competition
Decision-making, or uncertainty of the situations in which athletes are involved	No decision-making or options to choose from	Simple decision-making, maximum of 2 options	More complex decisions to make, increased frequency of decision-making, and more options (3-4)	Complex decisions, as many options, and at the same frequency as in a competition	Conditions similar to those encountered in the highest level of competition
Speed of execution	Slow and controlled	At athlete's own pace	Increased, variable, and close to competitive demands	Similar conditions in competition	Similar to highest level of competition
Importance of being precise and consistent	Not important	Moderately important	Precision and consistency are sought	A high degree of precision and consistency are sought	Perfection is sought at all times
# of repetitions, or opportunities to execute the movements	As needed, depending on athlete's general motor development	High	High	As many as possible	As many as possible
Risk factor and consequence of error	Completely safe conditions, errors of no consequence	Low risk conditions	Less than or similar to what is encountered in regular competition	Similar to a high level of competition	Similar to highest level of competition
During training, the emphasis should be on...	Basic stances and positions; getting the idea of what the movements are about, look like	Global execution and general form of the movement	Maintaining the form of movements and some performance consistency under a variety of conditions and under stress	Creating conditions that stress the specific elements that need adjustments	Generating new and unfamiliar situations

Stages Of Skill Development And Needs Of Athletes At Each Stage

	BEGINNER		INTERMEDIATE	ADVANCED	
	Initiation	Acquisition	Consolidation	Refinement	Creative variations
Key points to look for in asses-sing the stage the athlete is at	The first contact the athlete has with the skill. The athlete may have no idea of what to do in order to perform the skill.	The early stage of learning where the athlete becomes capable of (1) coordinating the key components of the movements and (2) executing them in the correct order, thus performing a rough form of the skill. The movements are not well synchronized or under control, and they lack rhythm and flow. The execution is inconsistent and lacks precision. The athlete has to think about what he or she is doing during the execution. Both form and performance tend to deteriorate markedly when the athlete tries to execute the movements quickly, or is under some pressure, as may be the case in a competitive situation.	The athlete can execute the movements or the skill in the correct form. Movement control, synchronization, and rhythm are good when performing the skill under easy and stable conditions. The movements can be repeated consistently and with precision under easy and stable conditions. Some elements of performance can be maintained when the (1) athlete is under pressure, (2) conditions change, or (3) demands increase, but performance remains inconsistent. The athlete begins to develop a more personal style.	The athlete can execute the movements in a way that is very close to the ideal model in terms of form and speed. The performance is very consistent and precision is high, even under very demanding conditions and in situations that are both complex and varied. Only minor fine-tuning may be necessary to achieve optimal execution, and a fairly definitive personal style is established. All components of the movement have been automated, which enables the athlete to focus on the environment during the execution and to make rapid adjustments as necessary. The athlete can reflect critically on his or her performance to bring about corrective measures.	This stage is achieved only by the best athletes in the world. The movements can be performed according to the ideal model, and the athlete has developed a personal style that is efficient. Personal interpretation of movements or personal movements can be combined into unique patterns in response to specific competitive situations.
Planning guide: at this stage, athletes need to...	Have a clear mental image of what a correct execution looks like. Understand the fundamental positions, stances, and patterns of the sport or skill. Feel safe when performing the skill. If necessary, reach a comfort level with some movements or feelings that may be unfamiliar, and that are part of the skill to be learned.	Understand clearly what they have to do, and have a good mental representation of the task. Perform a lot of repetitions at their own pace and under conditions that are stable, easy, and safe. Practice on both sides, if appropriate. Find some solutions by themselves through trial and error, based on some feedback from the coach.	Be exposed to a variety of situations, and perform a lot of repetitions under varied conditions. Be challenged by more complex and demanding tasks or conditions, and find more solutions through trial and error, based on less frequent feedback from the coach. Have the opportunity to practice the movements or the skill in conditions where fatigue prevails or that replicate competitive demands, and do so by having to deal with the consequences of errors.	Be exposed to complex or demanding competitive situations that require the skill to be executed at a very high level. Be trained on how to develop solutions to the problems encountered entirely on their own.	Be exposed to complex or demanding competitive situations that require the skill to be executed perfectly. Develop their own solutions.

Five Criteria To Develop Challenging Activities That Motivate Athletes To Learn
(From Martel, 2003; adapted from Florence, Brunelle and Carlier, 1998)

[Return to Workbook p. 18](#)



Principle: An activity does not necessarily have to feature all criteria simultaneously to be considered “motivating”; rather, the coach must decide which of these criteria should apply in a given situation in order to generate an optimal level of interest in the participants.

Step 2: Teaching and Learning Cycling Skills

In this part of the Workshop we will focus on skills and how to teach them.

Teaching Skills - How Athletes Learn

Before we move to teaching skills, we need to consider how athletes learn, and what they are ready to learn at their stage of development.

One of the key roles of the coach is to be a teacher- to help athletes learn skills, tactics, and many other things that will help them become successful racers. It is important to have an understanding of how athletes learn.

1. Everyone has some experience with learning, and situations where you have learned effectively in the past. List a few times when you have been in an environment that helped you learn:

2. List some factors that lead you to conclude that a particular coaching environment promotes learning by the athletes.

I know that athletes are learning when...

My definition of learning is...

3. People have a combination of different learning styles:
 - Visual: people who learn best by seeing;
 - Auditory: people who learn best by hearing;
 - Kinesthetic: people who learn best by feeling or doing.



p. [85](#)

Review the section in the *Reference Material* titled, “Recognizing the Learner’s Preferred Learning Style”.

4. How could the fact that different learning styles exist influence your way of coaching? What concrete things could you do to ensure that each athlete is given the opportunity to learn in their preferred way?

Deciding how to present and teach a skill

Research into how people learn movement (or “motor”) skills gives insight into how to best present and teach them. Your Learning Facilitator will provide information on this. You can also find out more in “Sport Skill Classification” in the Reference Material.



p. [89](#) - 91

1. In a race, do cyclists perform skills in an “open” or “closed” environment? Does it depend on the cycling discipline or event? Why?

2. Now think of a skill you want to teach. Is it “open” or “closed”? Based on the stage of your athlete (age, LTAD stage, years of experience, stage of skill acquisition), should they practice the skill in a more open or closed way? Why? Again, refer to the *Reference Material*.

In my practice the skill should be performed ... (mark an X):

:_____ :_____ :_____ :_____ :_____ :

More Closed

More Open

3. For athletes to learn most effectively, the skill should be introduced and developed in a way that matches their stage of skill acquisition. To help you decide how to do this, you will need to check the *Reference Material*. Check one answer box for each question.

Practice planning question: Should I break this skill into smaller parts to help the athletes develop it, or should they learn it as a whole skill??



p. [91](#) - 95

Reference Material to check: *Part, Progressive Part, Or Whole Practice*

☐ Part or ☐ Progressive part or ☐ Whole

Practice planning question: Should there be pauses between trials (distributed practice), or can lots of trials be done one after the other without rest (massed practice)?

Reference Material to check: *Massed Or Distributed Practice*

☐ Massed or ☐ Distributed

Practice planning question: Should all trials be done in the same conditions, or should there be some variety?

Reference Material to check: *Constant, Variable, or Random*

☐ Constant/blocked or ☐ Variable or ☐ Random



p. [64](#) - 67

4. The *Reference Material* entitled *Activity Planning Guidelines for Various Stages Of Skill Development* lists the needs of athletes as they learn skills. Based on this information, what kinds of activities should the players do in your session to help them develop the skill? Think of one or more activities for the main part of the practice session, and how to deliver them.
5. Based on what you just learned, select the practice elements that seem most appropriate given the **nature of the skill** being trained through your activity and the **stage of skill development** of most of your athletes. You should be able to outline:
- The name of the skill
 - A practice activity (mini-game, drill)
 - How players will practice the skill in detail
 - How long and how many repetitions they practice the skill.

Analyzing Cycling Skills: Reviewing the ABCs

You previously learned about the ABCs of cycling skills in the Basic Cycling Skills workshop.

1. How do you know when a skill has been performed well? What are you looking for? List a few points.



p. [96](#) - 97

2. In the Basic Cycling Skills workshop, you learned about the Cycling Skills Model and the ABCs. Review this in the *Reference Materials* and re-familiarize yourself with the ABCs.



p. [98](#)

3. Also review the three-phase and five-phase analysis model in the *Reference Materials*. You'll have a chance to see a demonstration of a skill. What's your Observation Strategy? Can you spot the different phases? Which ABCs occur in each phase? Is the skill three-phase or five-phase? Why?

Skill Progressions

Skill progressions are an important part of teaching a skill effectively. Basically, skill progressions consist of identifying a series of steps in performing a skill, and practising them from the easiest to hardest levels. The facilitator will present some information about creating skill progressions.

1. Return to and review the skill development lesson you have been preparing. Create a skill progression list for your activity on your *Skill Planner* sheet.
2. Think about presenting your lesson to a group of young participants (age 10-12, for example). What skill progression would be appropriate? How could you keep the interest of the participants as they practiced?
3. The *Reference Materials* also include a set of Lesson Plans for developing basic cycling skills. How could you use these lesson plans to create skill progressions?

Delivering your lesson plan: the teaching process

You've learned about how athletes should practice a skill to enhance learning. Now it's time to consider how you should organize and present your lesson plan for best effect. This section helps you develop a strong process for delivering lessons and supporting learning.



p. [105](#)

1. There are five steps in the teaching process. The learning facilitator will help the group explore and summarize each step. You can also review the information on teaching in the *Reference Material* starting with “*Representation of the Teaching Process*”. List your key points for each step here:

Step	Key points
<i>Organization</i>	
<i>Explanation/ Demonstration</i>	
<i>Observation</i>	
<i>Feedback</i>	
<i>Effects of the Feedback</i>	

2. With other coaches in your Workshop, brainstorm some tips for group management that you can use in your practices. For example, think of ways to share responsibility with athletes for leading sessions, ideas for a code of behaviour, and so on. You can record some of the best ideas here:

Giving feedback – an essential coaching skill



p. [115](#) - 120

1. The facilitator will present some information on effective communication and intervention (feedback) techniques. You can also take a moment to review the information on *Practical Application of Recent Research in Motor Learning: Key Points on Giving Feedback* in the *Reference Material*. Record any ideas.



Workbook
p. 83

2. Review the copy of *Self-assessment Sheet #2* on **page 83** in this *Workbook*. Will this information affect the way you present your feedback? List some tips here.
3. When you give feedback, how do you know it “worked”? What are the effects of the feedback you should look for?

Putting it together: preparing to deliver your lesson plan



p. XX on

1. Choose one of the skills from the list below that you think would be suitable for your participants. You can find the Lesson Plans in the *Reference Materials*. Review the purpose of this skill and its key characteristics.

Cycling skills covered in the Skills and Tactics module:

*Lesson plans are provided for skills marked with an asterisk**

<i>MTB-specific Skills</i>	<i>Road-specific Skills</i>
• Race starts* • Body position* • Braking* • Obstacles and Hops • Mounts and dismounts • Ditches and bails • Terrain management • Group riding • Other (feed zone, mechanicals)	• Accelerating and sprinting* • Riding on a wheel* • Riding a pace line or echelon* • Pack riding • Other (feed zone, mechanicals)
<i>BMX-specific Skills</i>	<i>Track-specific Skills</i>
• Starts* • Pumping and Rolling* • Jumping* • Manualling* • Cornering (medium- to high-speed) • Pedalling • Gearing and cadence	• Standing starts* • Pedalling at high rates (r.p.m.)* • Smooth riding on a line* • Using the banking for positioning* • Changing the lead (team pursuit-style)* • Hard accelerations on the straights* • Using the banking for accelerating* • Gear selection for events and conditions



Workbook
p. 81

2. You will be asked to coach your chosen activity using the other coaches as your participants. Think about how you will coach your activity using the *Reference Material* as a guide. Use the *Cycling Skill Planner* on page 81 of this Workbook to create your plan.

3. First, you need to consider the purpose of the skill, the key points in teaching it, how you will make it more challenging as learners develop the skill, and typical errors to look for and correct.

Start with the left-hand sections of the Cycling Skill Planner. Complete them now:

- a. Describe the skill:
What does the skill look like? Why is it important?
 - b. Teaching points:
3 to 5 key step-by-step points - briefly
 - c. Progressions:
The next few steps in making the skill more challenging
 - d. Errors and Correction:
2 or 3 typical errors and a point on how to correct each.
4. The next steps are to plan how you deliver your lesson: how to set it up, demonstrate it and get the learners into action trying it.



p. [106](#) - 120

If you need to, review the *Reference Material* entitled *Key elements of each step in the teaching process*. Your facilitator may present additional information. Considering this, complete the right-hand side of the Skill Planner sheet:

- e. Set-up and equipment:
The terrain/course, lines, cones, or other set-up needs.
- f. Demonstration plan:
What riders will see, who will lead it, positioning.
- g. Activity plan for group:
What riders will do to practice the skill.
- h. Observation plan:
How you will position yourself to best observe performance.



Workbook
p. 82

4. Take a look at *Self-assessment Sheet #1* in this *Workbook* and review the points on the sheet. Does your lesson plan cover it all? Make any changes now.

How you organize activities and how you arrange for the transition from one activity to the next will be important in maintaining the attention and the interest of the participants. Participants are happiest when they are busy, when they have lots of chances to try an activity, when they succeed more than they fail at the activity, and when they have some choice in what they are doing. Choose challenging activities that participants can do successfully at least seven out of every 10 tries. Maximize the time that they are active, with very little time spent waiting in line or in transition between activities. Use the services of any available parents or helpers who can help you arrange your activities in stations. Allow participants some say in what stations you set up and the ways they move between them.

Practice Coaching Session: Model coaching by the facilitator

The facilitator will demonstrate how to coach an activity with a group of participants. Watch how the facilitator follows the guidelines for:

- selection of the activity
- safety before the activity
- explanation
- demonstration
- organization
- safety during the activity.



1. As you watch the demonstration of the activity, use the *Skill Analysis and Error Correction Sheet* in this *Workbook*. You will only be using the Observation Strategy and Key Movements boxes at this time. Fill out these areas for the skill you have selected. Put tick-marks on your sheet when you see the ABCs. Did your observation strategy work?
2. What are the phases of each skill? How does the demonstration help make the phases clear?
3. What are the ABCs that go into each skill? How does the explanation by the demonstrator or learning facilitator help make this clearer?
4. When you tried the skill yourself, what were the key cue words or phrases that helped you perform the skill correctly?

Practice coaching session

Now you will have an opportunity to present your skill lesson to fellow coaches. You will be asked to:

- coach your activity
- listen to some feedback from the facilitator and other coaches
- take five minutes to complete *Self-assessment Sheet #1 and #2*
- jump back in and be a participant while another coach practises.

Debriefing your practice coaching session

Discuss your self-assessment with another coach. Practise being an active and effective listener when another coach is commenting on his/her performance.



1. Take a few minutes on your own and note on your Action Card anything that you learned from the first practice coaching session. Be sure to note things you did well, things you need to improve, and ideas from watching others practice coach.



Workbook
p. 83

2. Consider how your session went, and compare to Self-Assessment Sheet #2. What did you learn about intervention and communication (feedback)?
3. Compare your completed *Skill Planner* sheet for the skill you selected with the *Skill Planner* in the *Reference Material*. How does your version compare? Did you miss any points?

Skill Analysis & Error Correction Sheet

Skill: _____

Observation Strategy: (Where to look, where to stand, what to watch for)

5 phase	3 phase	Key Movements (ABCs + others)	Errors Observed	Recommended Correction
Set-up	Set-up			
Preliminary	Movement			
Force-producing				
Critical Instant				
Follow-through	Follow-through			

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Skill/Tactic: _____

Describe the skill/tactic:	Set-up and Equipment:
Teaching Points:	Demonstration Plan:
Progressions:	Activity Plan for Group:
Errors and Corrections:	Observation Plan:
Summary/Wrap-up:	

Self-assessment Sheet #1

Practice Coaching #1: Explanation, demonstration, organization, and safety

Criteria	Yes	No
Selection of the activity		
The activity selected is appropriate for the age of the participant		
The activity selected is appropriate for the ability of the participant		
Comments/suggestions:		
Safety before beginning the activity		
Equipment is appropriate for the age/size of the participant		
Equipment is in good repair and is properly adjusted		
The playing area is checked for hazards		
Comments/suggestions:		
Explanation		
Coach is positioned such that all participants can see and distractions are minimized		
Explanation and demonstration last 90 seconds or less in total time		
The purpose of the exercise/activity is clearly stated		
One or two key points are emphasized (not necessarily technical aspects)		
Safety points are emphasized, if appropriate		
Coach speaks clearly and loud enough for all to hear		
The choice of words is appropriate for the age of the participants		
Participants are checked for understanding		
Comments/suggestions:		
Demonstration		
All the participants can clearly see the demonstration		
The speed of the demonstration allows participants to see accurately what they are to do		
Coach demonstrates in a manner that a child would be able to perform the activity		
Coach reinforces key points while he/she demonstrates		
Participants are checked for understanding		
Comments/suggestions:		
Organization		
A sufficient area is used for the activity		
Available equipment is used optimally		
Participants are active for the majority of the time (minimum waiting in line)		
Comments/suggestions:		
Safety during the activity		
If a potentially hazardous situation presents itself, coach deals with it immediately		
Comments/suggestions:		

Self-assessment Sheet #2

Practice Coaching #2: Skill progression, intervention, and communication

Criteria	Yes	No
Skill progression		
The progression for skill development is appropriate for age/ability of the participant		
Coach focuses on the appropriate key points for the skill to be developed		
Coach adjusts the activity for more advanced and less advanced abilities within the group		
Comments/suggestions:		
Intervention		
Coach scans the entire group constantly and intervenes with a variety of participants		
Coach looks for input/feedback from the participant		
Correction or reinforcement is clear and a visual is provided		
Correction or reinforcement is brief and participant returns quickly to activity		
Coach focuses on communicating what to do (not what NOT to do)		
Comments/suggestions:		
Communication		
Coach speaks in a calm tone of voice (i.e. does not yell at the participants)		
Coach uses language that the participants can easily understand		
Coach refrains from the use of foul language		
Words and body language used in the correction or reinforcement are positive *		
When praise is given, it is specific, not general (e.g. "you are doing ___ well", not "nice one!")		
Coach acts and speaks with enthusiasm *		
Comments/suggestions :		

- *This looks like: *Smiles; nods in the affirmative*
- *This sounds like: *Cheers; "Sally, you did ___ very well. Way to go!"; "Johnny, I see that you are improving at ___. Great job!"*
- * This feels like: *High fives; safe pats on the back; a hand shake of congratulations (use these only if the participant is clearly comfortable with physical contact from you)*

Counting interventions during the activity	Number
Duration of the activity in minutes (when participants are practicing, excluding explanation & demo)	
Total number of interventions with the entire group	
Total number of interventions with individual participants	
Total number of different participants with whom the coach intervened	

Remember, more is not necessarily better. The total numbers are only to give you an indication of how often you are intervening and whether you are moving among the group or focusing only on certain participants.

Cycling Skills and Tactics

Reference Material: Teaching and Learning Skills

Recognizing the Learner's Preferred Learning Style

You are Primarily a “Visual” Person

Your General Profile

This means that you are particularly sensitive to the visual aspects of your environment, that you live in the present, that you are aware of what is going on around you, and that you very quickly bring up images of the past in order to make sense of what is happening to you. You like art and beauty, order and disorder. You have a very fine sense of nuances of colour and form. You pick up details: you identify your athletes' handwriting. You recognize people easily. Their appearance, some aspect of how they look, their location in a particular setting are points of reference that you capture in a flash. You get athletes to stay in the same place, so that you will have time to identify them by their place in the room. So much so that when people forget and change places in the room, you may well call them by the wrong name...

You have a good sense of orientation, so you are able to locate where you are on a plan or map, and you don't have to ask the way. You don't always understand why athletes ask you to repeat some instruction for a drill or comment on a practice. “Just open your eyes”, you tell them. You believe that a clear explanation or document requires illustrations, diagrams. When there are no visual pieces, you immediately draw something on the board: you believe it is easier, clearer than any verbal explanation.

You are creative. There are always ideas bouncing around in your head. Athletes sometimes say you speak a little too quickly. It is not always easy to follow your explanations, which are often full of picturesque details. Sometimes you forget to define exactly where you want to go with it. However, you have a sound sense of how to synthesize information and you are as able as anyone to describe the main points. You just allow yourself to get carried away by your rich imagination.

Particular Aspects You Should Pay Attention To

You have to learn how to enter the world of auditory people. If you understand them better, you will find their long explanations less tiring. Provide just the right word, and they will be satisfied; your explanation will make more sense for them. Even easier: get them to give a name to your activities or exercises or to summarize the main points of your message. That way you will satisfy their need for words and you will frame how long they can talk; they will appreciate your activities better and you will provide them a meaningful opportunity to contribute to the group's dynamics.

Kinesthetic people often seem to you to be too “slow”. Use your creativity to create imaginary journeys for them: they will revel in your images... They will experience multiple sensations that they will find overwhelming. Begin your explanations by saying: “Imagine yourself walking...visiting...touching...” Any action verb will do providing you cause them to be mentally active in the course of their reflection. Ask them what they feel when they create these images. If you are able to keep them in contact with their own feelings, they will become more creative and be more interested in your activities. They remind to everyone (and to yourself) that you are also a body capable of experiencing sensations, feelings, needs. They will add some human depth and breadth to your sometimes overly detached view of the world.

Teach others to use their eyes more, especially to remember movement patterns or diagrams outlining certain tactics. You excel in this area because you perceive any visually-based strategy as being more effective.

You Are Primarily an “Auditory” Person

Your General Profile

This means that you are particularly receptive to the auditory aspect of your environment, and that you very readily call up sounds and words heard in the past to help you make sense of what is happening to you.

You are sensitive to the harmony of sounds, the meaning of words, the rhythm of things. You have a fine sense of the various ranges of tonality: the bass and treble are very familiar to you. You recognize people primarily by the tone of their voice. You remember the names of your athletes. You have clever methods to help you do that. You like to choose just the right word. You like to talk, to tell stories. You like to sing or, at the very least, you appreciate the musicality of what you say or hear.

You like to listen to people, discuss, or play with ideas. Your athletes like your careful elocution: you take pleasure in talking. Your voice is melodious, well ordered. You usually breathe through the middle of the thorax by filling your lungs well, which enables you to maintain a regular rhythm.

Particular Aspects You Should Pay Attention To

The previous aspects can sometimes work against you as well: you take such pleasure explaining that you may occasionally forget that some of your athletes soon “turn off” and are unable to sustain their attention to purely auditory sources of information. From time to time, be sure to provide some visual support to revive their interest and regain their attention. It will also make their task easier when you supplement your explanations with concrete examples that will enable them to create their own internal images. Abstract terms tend to be too much in the realm of sounds alone

So what about kinesthetic people? Words alone will always be an empty vessel for them, unless you can also appeal to their senses, their need for physical sensation. Choose the words that complement their preferred sense. On the next pages you will find a table of words most frequently used by each of these profiled classes of people. The list of kinesthetic terms contains suggestions for more appropriate words to use with this kind of athlete.

You Are Primarily a “Kinesthetic” Person

Your General Profile

This means that among the many perceptions that you form at any given moment, you are particularly sensitive to those that you feel. From time to time, you pause in order to check your feelings, and this is your way of being in contact with what is going on around you.

You are aware of the ambiance, the relationships between people. You have a keen sense of the state of mind of those you are speaking with. You are passionate: your athletes appreciate the way you “rev them up”. You are warm and spontaneous. Sometimes, you let yourself get carried away by your emotions: your athletes are afraid of your anger. You are very emotional, and you do not like delicate situations when you have to control yourself. You know how to grab the attention of your athletes because you express yourself in concrete terms, with a fairly slow delivery. You often call on your emotions and theirs.

As you follow your inspiration of the moment, you have a tendency to improvise. The outcome is often positive. You are always available to answer your athletes’ questions: you adapt to the needs of the moment. You are able to remain attentive to them and not feel too restricted by rigid plans.

Particular Aspects You Should Pay Attention To

You would be even more effective if you took more frequent pauses in order to reframe what is being said: a plan, key ideas on the blackboard, to resume the essential elements of what is to be learned. Otherwise, your athletes may get the impression that you are changing the subject abruptly. They need to be able to be involved in the process to acquire a more global vision of the course if they are to understand the general meaning of the program.

For primarily visual learners, your many expressions and gestures are a valuable source of information. Anecdotes, a concrete and dynamic approach help them create vivid mental images. You can have them provide a synthesis of what has already been said or done, or how this fits into the larger picture: they will be very good at this exercise. The rhythm of your presentation may seem too slow to them: mental pictures

are created very quickly in their minds, so much so that you may not be capable of keeping pace with the way they interpret information. Have them speak from time to time, so that the rest of the class can benefit from their brightly coloured examples and images.

Athletes who are primarily auditory may become frustrated: they like structured practices, and activities that are planned, described in precise, well thought-out terms. Have them comment on a technique or summarize an important explanation, because they often link things together in a subtle way. Don't hesitate to recognize your differences in your conception of knowledge, so learn to rely on their strong points: "What word would you use to describe this?", "How would you classify the various ideas we have heard today?" Thanks to your primarily kinesthetic sense, you practice your profession with great sensitivity. This is one of your great attributes: to teach in a lively, unexpected and sometimes unusual way. You epitomize this picturesque Chinese proverb: *"Teaching that only enters the eyes and the ears is like an imaginary meal"*.

Translated from an adaptation of: *La programmation neuro-linguistique*, by Reine Lépineux, Nicole Soloeilhac and Andrée Zerah, 1984.

Sport Skill Classification

What is a skill, and how is one developed?

A skill is the ability to do something well. Most sport skills involve a movement or a series of movements, and a skilled sport performance can therefore be characterized by the following:

1. high certainty in bringing about the expected end result
2. high precision
3. efficiency, e.g. it is performed with minimum energy expenditure, and/or in the shortest possible time.

Categories of Skills

Sport skills are classified according to whether or not the movements involved:

- are performed in a stable and predictable environment; or
- have clearly defined beginning and end points.

Some sports are easy to classify, because they involve few, well-defined skills; however, this is not the case for others that may involve a variety of skills that are performed in different conditions or situations.

The tables on the following page provide basic information about how skills can be classified, and show some sport examples. Knowing the type of skills that are featured in your sport, or that are called upon in certain situations, may help you make planning decisions about what activities to choose for your practices, and how they should be run.

Skills classification based on the stability and predictability of the environment in which they are performed.

Closed Skills	↔	Open Skills
The movements are performed in an environment that is both stable and predictable	The movements are performed in an environment that is predictable, but changing	The movements are performed in an environment that is unpredictable
Sport examples: • Archery • Athletics (throws, jumps) • Bowling • Diving • Figure skating • Gymnastics • Shooting • Swimming in a pool • Weightlifting • <i>Individual track cycling e.g. kilo</i>	Sport examples: • Bobsleigh • Luge • Cross-country running • Golf • Skiing • Speed skating • Yachting • <i>BMX, MTB X-C, Road TT, group Track events e.g. sprint</i>	Sport examples: • Combative sports • Racket sports • Team sports • <i>Road cycling – mass start</i>

Note: As indicated by the middle column (↔), there is a continuum between purely closed skills and open skills.

Skills classification based on whether or not they have well-defined beginning and end points.

Discrete Skills	Serial Skills	Continuous Skills
Distinct and easily determined beginning and end points	A series of discrete actions linked together	Actions are repetitive. No distinct and easily determined beginning and end points.
Examples of discrete skills: • Catching a ball • Throwing a punch • Swinging a golf club • Throwing a ball	Examples of serial skills: • Gymnastics routine • Figure skating routine	Examples of continuous skills: • Cycling • Running • Swimming

Skill Development: Key Points

- When learning a skill, athletes progress through some predictable stages. The table on the following page outlines some key concepts about the stages of skill development, and the needs of the athlete at each stage.
- While each athlete can be expected to go through each stage, the time and the amount of practice necessary to progress from one to the next can vary greatly from one athlete to another.
- The stages of skill development described in the following table (initiation, acquisition, consolidation, refinement, and creative variations) apply regardless of the type of skill or how it is classified.
- It is important that you recognize the stage of skill development your participants are at, as well as the specific needs they have at each stage, and that you plan your practice accordingly (i.e. that you select the right types of activities and the appropriate way to run them).

Note: It may take months or even years of practice for an athlete to reach the “Refinement” stage as defined in the shaded area of the following table. Also, the vast majority of them will never reach the “Creative variations” stage. Consequently, at the “Introduction to Competition” level, few coaches work with athletes who achieve an advanced stage of skill execution. Therefore, the focus should be on ensuring the fundamentals are correct, and that they can be performed in a variety of situations and conditions.

[Return to Workbook](#)

Part, progressive part, or whole practice or taking into account whether it is best to break down the skill into parts

Type of practice	Definition: A practice procedure in which...	Examples	Most effective for or when ...	Not recommended for or when
Part practice	a complex skill is broken down into distinct parts that are practised separately	Breaking down a Gymnastics or a Figure Skating routine into parts.	Skills that involve some risk, in the early stage of learning. The parts are performed relatively independent of each other in the real skill. Serial tasks of long duration where errors in one part do not impact the actions in the part(s) that follow(s). Slow serial tasks where the parts do not impact each other.	The interaction between each part is high. An error made or a change happening in one part impacts the actions in the part that follows. Discrete skills that are (1) short, (2) performed fast, or (3) involve balls or objects on a trajectory. Coordination of different parts of the body is important (hand and foot motion). Continuous skills.
Progressive part practice	parts of a skill are gradually integrated into larger blocks that come progressively closer to the real, whole action	Linking some parts of a Gymnastics or a Figure Skating routine in the order in which they will be performed. Skating and stick handling in Ice Hockey.	The task has parts that interact with each other, and adjustments may be necessary as a result of events that occurred in a previous part. The learner has reached a stage where linking actions in a complex skill no longer poses safety risks.	The learner cannot yet link critical parts or actions in a complex skill, and this poses safety risks.
Whole practice	the learner practices all parts of the skill in the right order from the outset	Golf swing. Throwing a ball. Swinging a bat. Kicking a football.	Continuous skills. Discrete skills that must be performed rapidly, and in which various parts of the body are involved. Coordination of different parts of the body is important (hand and foot motion).	The learner cannot yet link critical parts or actions in a complex skill, and this poses safety risks.

Massed or distributed practice determining whether it is best to include pauses between repetitions

Type of practice	Definition	Examples	Most effective for or when ...	Not recommended for or when ...
Massed practice	An approach to practice in which a given task or movement is repeated many times in a row without pauses or rest, OR where the pauses or the rest between each repetition are <u>short</u> compared to the duration of the actual task or movement itself.	In cross-country skiing, over a 2-minute period, shifting weight from one leg to the other and gliding as long as possible each time without using poles. Punching a bag for 3 minutes.	Discrete skills or tasks that are very short (and therefore, where movements are performed rapidly), in particular during the acquisition phase (Note: in some cases, such as throwing, some rest between repetitions may be necessary to avoid injuries). During the acquisition and consolidation stages of skill development. The duration of the practice is set (e.g. facility is available for one hour) and lots of repetitions are needed. The energy requirements of the task are not too high. The activity or the task performed poses little risk.	Continuous or serial skills or tasks that require a lot of speed or coordination and where fatigue can build up during the practice and affect the quality of execution. Fatigue developing during the session increases the risk of accident or injury, particularly towards the end of the practice.
Distributed practice	An approach to practice in which the pauses or the rest following each repetition of a task or movement are <u>long</u> compared to the duration of the actual task or movement itself.	In Track and Field, practising an all-out start from the blocks over 10 or 15 meters 5 times, with a one-minute recovery consisting of light jogging and walking between each repetition.	Continuous or serial skills or tasks that require a lot of speed or coordination, and where fatigue can build up during the practice and (1) affect the quality of execution or (2) increase the risk of accident.	

Constant, variable, or random practice determining whether it is best to vary the task(s) the learner has to perform

Type of practice	Definition	Examples	Most effective for or when ...	Not recommended for or when ...
Constant practice	A practice sequence in which the same task or movement(s) are repeated under the same conditions from one repetition to another.	Throwing a ball 10 times at the same speed, from the same spot, and to the same target.	The athlete is in the initiation or the acquisition stage of skill development. When massed practice is an effective method.	The athlete is beyond the initiation or the acquisition stages of skill development, in particular for discrete and/or open skills.
Variable practice	A practice sequence in which the same task or movement(s) are repeated but where one aspect of the execution is changed from one repetition to another.	Throwing a ball 10 times, but varying <u>one</u> of the following at each trial: speed, distance, velocity, target.	The athlete is in the consolidation stage of skill development. When massed practice is an effective method. When distinct skills or movements are performed during the same practice.	The athlete is in the initiation stage of skill development.
Random practice *	A practice schedule in which various discrete or serial skills that are required for performance in the sport are practised in a random order, and where the learner does not practise the same task on two consecutive attempts.	In tennis: moving backwards to do a backhand, then doing a serve, then moving forwards to return a volley. In Basketball, practising non-repeating types of shots.	Serial skills that are already acquired. Skills that are both discrete and open. The athlete is in the consolidation stage of skill development, or is beyond this stage. When distinct skills or movements are scheduled to be performed during the same practice.	The athlete is in the initiation or the acquisition stage of skill development.

* There is strong evidence supporting the fact that random practice, although sometimes associated with inferior performance compared to constant practice in the short term, results in superior retention and performance in the long term. In other words, when constant practice is used to learn a skill or task, the performance during the session is often better compared to random practice, but the latter promotes better skill retention and overall performance in the long run. This suggests that random practice may be a very effective approach for both discrete and serial skills, as well as for open skills. The reasons for this may be that random practice causes the athletes to forget short-term solutions to the task at hand; this could engage them actively in the learning process, by eliminating “automatic” repetitions.

Important Notes

Performance versus learning

- Motor performance is the participant's behaviour when executing a task, as determined by the coach through qualitative and/or quantitative assessments.
- Learning refers to the permanent change in the motor performance (or skill) as a result of practice.
- A reassessment of motor performance at a later date (retention test) is therefore necessary to determine if skill learning has indeed occurred.
- Failure to appreciate the difference between performance and learning can lead to a misinterpretation of an athlete's progress or actual capability to execute a task independently and consistently.
- It is important to establish a distinction between how well a skill can be performed during a training session, and how well the participant performs when it counts, i.e. in competition.

Rate of improvement and amount of practice

- Improvements in skill occur rapidly in early practice, but more slowly in later practice. Learning occurs in stages, with a different rate of improvement associated with each stage.
- The amount of practice is the single most important variable that leads to motor performance improvements and skill learning.

Short- and long-term effects of using specific practice conditions

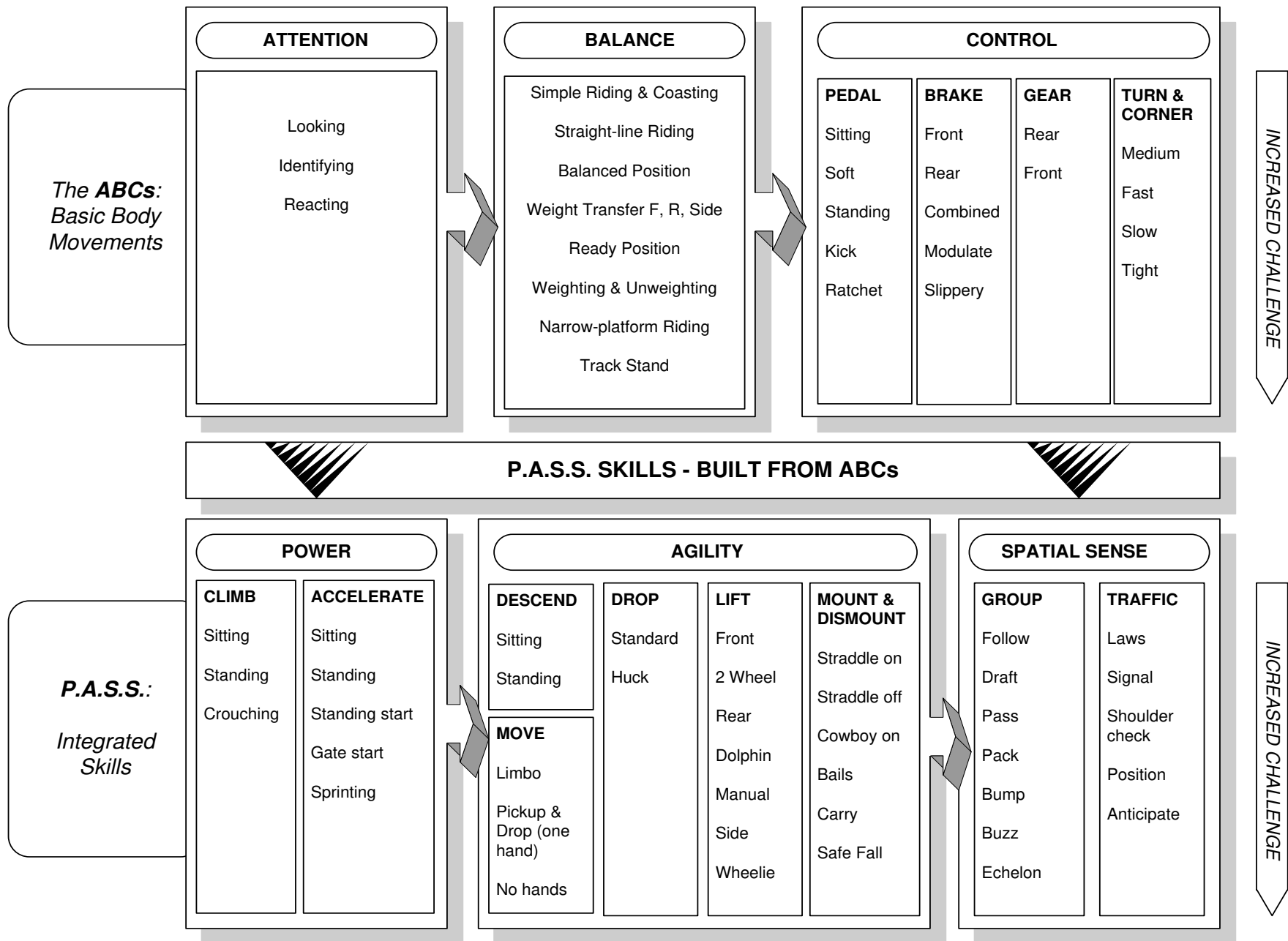
- Both variable and random practice conditions have been shown to positively affect learning, to promote the ability to transfer the skill into another environment, and to increase generalization because they are challenging to the athlete, and promote effortful, problem-solving activities during movement repetitions.
- Repeating the same task many times under the same conditions (blocked practice) usually results in good performance improvements in the short-term.
- Repeating the different tasks under the variable conditions (random practice) usually results in inferior performance improvements in the short-term compared to blocked practice, yet it promotes greater learning in the mid- to long-term as determined by retention and transfer tests.
- Coaches who incorporate a problem-solving approach to skill training by using random practice may need to educate participants and their parents about the short- and longer-term effects of this method, as opposed to other approaches, such as blocked practice.

[Return to Workbook](#)

Cycling Skill Development Model

The model on the next page shows an approach to building basic cycling skills. This brief explanation will help you use the model in your coaching. *See the glossary for an explanation of terms.*

- The first step in developing cycling skills are the ABCs: Attention, Balance and Control. These form a foundation for more advanced skills. Each of the ABCs can be broken down into various parts. Understanding the ABCs allows the coach to instruct skills from the building blocks on up, to analyze movements and detect and correct fundamental errors, and to plan effective skill progressions.
- When analyzing a cycling skill, always look for the ABCs first. Every skill is based on some combination of A, B and C in the set-up and initiation of the skill. If there are problems with these basics, the cyclist will not be able to build more advanced skills. If the cyclist is fearful or concentrating too hard on a specific part of the skill, he/she may not execute basic ABCs correctly.
- The ABC's can be used by a coach to create skill progressions. To help participants consolidate a movement skill, allow them to choose their preferred line of sight (A), position for balance (B) and velocity/gear choice (C). To make a movement more challenging, "take away" an "A, B or C". For example, ask participant to complete the movement with 1 hand on the handlebar, removing an element of B, balance. Conversely, to help struggling participants, "give" them an "A, B, or C", for example in require a participant to select their easiest gear (C or control), to first learn ratcheting.
- The ABCs can be put together, or integrated, into more complex skills: Power, Agility, and Spatial Sense skills (P.A.S.S.). For example, an Agility skill like Limbo (ducking under an obstacle) requires the cyclist to pay Attention and adjust his/her speed and path; to use Balance by shifting weight; and to Control by braking, steering, and pedaling in preparation for the obstacle.
- Ready position has special importance. In ready position, the cyclist has knees and elbows slightly flexed, fingers on the brake levers, and is attentive to upcoming conditions. He or she is ready to react. One objective of building good ABCs is to prepare the rider for Ready Position which in turn is a starting point for many P.A.S.S. skills.
- In general, skills are integrated into new more complex skills, from left to right on the model diagram. Within each box, there is also a progression from top to bottom, with more challenging skills at the bottom (for example, Control – Brake goes from one front brake at top to combined, modulated braking in slippery conditions at the bottom).



A CYCLING SKILLS MODEL

[Return to Workbook p. 72](#)

Skill Analysis: Cycling Skills

The following chart shows key movements to accomplish the cycling skills. The skills are grouped according to the Skills Model into ABCs and PASS skills, and broken down using either a three- or five phase analysis: Set-up, Preliminary Movement, Force-producing Movements, Critical Instant and Follow-through, or in three-phase analysis, Set-up, Movement, Follow-through. This method of analysis is used in many sports.

- Set-up: Decision and preparation for executing the skill, usually a combination of Attention, Balance and Control (ABC) movements.
- Preliminary Movements: The first movements of the skill itself, often a narrowing of Attention along with a new combination of Balance and Control movements.
- Force-producing Movements: Typically this is a combination of Balance movements such as weighting, unweighting, and weight transfer needed to execute the skill. These movements are often rapid, powerful and coordinated and therefore can be difficult to observe or separate.
- Critical Instant: The force-producing movements combine to achieve the objective of the skill. The moment when the success of the skill can be seen.
- Follow-through: The final movements, usually a combination of Attention, Balance and Control, needed to complete the skill and transition to a new skill. This may overlap the Set-up phase of a new skill.

In a three-phase skill, Preliminary Movements, Force-producing Movement and Critical Instant merge together into a Movement Phase. This is true for continuous skills.

For example, here are the five phases of a Standing Acceleration:

Set-up	Preliminary	Force-producing	Critical Instant	Follow-through
• Identify/react A • Change gearing if needed C	• Weight transfer forward & unweighting (stand up) B	• Pedaling C • Rhythmic weight transfer to counter-balance aggressive pedaling B	• Acceleration to desired speed	• Continue pedaling C at new speed

A= Attention B= Balance C= Control

Sometimes, especially for the basic ABC movements themselves, there are fewer phases or the Preliminary and Force-producing phases merge.

Use an observation plan to spot these phases during skill execution. This allows you to identify errors and suggest corrections. It is also the basis of building skill progressions- the development of increasingly challenging variations on the basic skills.

Cycling Skill Analysis Chart

Skill Group	Skill	Set-up	Preliminary	Force- producing	Critical Instant	Follow-through
			Movement Phase (execution)			
Note: A= Attention B= Balance C- Control	Ready Position	- Look/Identify A - Balanced position B	- Flex elbows and knees slightly from balanced position (move to ready position) - Weight centered - Fingers on brakes			Maintain or initiate new skill from ready position
<i>Balance</i>	Balance Narrow-platform riding	- Look/Identify A - Balanced position B - Brake or pedal to adjust speed C	- Move to ready position - Weight transfer side to side as needed - Balance maintained			- Ride off platform in ready position - Maintain or initiate new skill from ready position
<i>Control</i>	Brake Combined	- Look/Identify/ React A - Move to ready position	- Apply front and rear brakes together and simultaneously, - Weight transfer to rear - Slows to desired speed or stop by target point			- Move to balanced position; resume pedaling - If stop, straddle
<i>Control</i>	Turn Medium Speed	- Look/Identify/ React-choose appropriate line A - Balanced position B - Inside pedal is up C	- Initiate turn with slight handlebar turn and bike lean B+C - Body upright, balanced over outside (low) pedal “Push outside pedal down” cue - Hits correct line, speed maintained			- Move to balanced position; resume normal pedaling - Maintain or initiate new skill
<i>Control</i>	Turn Slow or Tight	- Look/Identify/ React- choose line, spot obstacles A - Move to ready position B - Brake as needed to modulate speed C	- Look across turn (line)- turn head as needed A - Weight transfer side to side as needed to maintain balance B - Light rear brake and move pedals as needed to regulate speed (pedal, coast or ratchet) C - Balance maintained - Hits correct line			- Move to balanced position; resume normal pedaling - Maintain or initiate new skill
<i>Power</i>	Climb Sitting	- Look/Identify/ React- choose appropriate line A - Change gear as needed C	- Weight transfer forward to maintain balanced position B - Continue pedaling C	Pedal while maintaining forward weight distribution C	Climb completed with minimal loss of speed	- Resume normal pedaling - Maintain or initiate new skill

<i>Power</i>	Climb Standing	- Look/Identify/ React- choose appropriate line, gear A - Change gear as needed C	- Move to ready position (standing) as climb begins - Weight transfer slightly forward B	Pedal and weight transfer side to side in rhythm with pedal stroke (push/pull on bars) B+C	Climb completed with minimal loss of speed	- Move to balanced position; resume normal pedaling - Maintain or initiate new skill
<i>Power</i>	Climb Crouching	- Look/Identify/ React- choose appropriate line, gear A - Change gear as needed C	- Move to ready position (standing) as climb begins - Weight transfer forward; weight front wheel B - Continue pedaling C	- Pedal with upper body low over handlebars - Weight transfer side to side in rhythm with pedal stroke (push/pull on bars) B+C	Climb completed with minimal loss of speed	- Resume normal pedaling - Maintain or initiate new skill
<i>Power</i>	Accelerate Standing	- Identify/react A - Balanced position B - Change gearing if needed C	Weight transfer forward & stand B	- Pedal C - Rhythmic weight transfer to counter-balance aggressive pedaling (push/pull on bars) B+C	Acceleration to desired speed	Continue pedaling at new speed
<i>Agility</i>	Descend	- Look/Identify/ React- choose appropriate line, speed A - Brake if needed C - Move to ready position	- Look at path (line)- turn head as needed A - Weight transfer back (more for steeper descent) B - Pedals in level position C - Steer, weight transfer side to side as needed B+C - Descent completed speed maintained			- Change gear as needed - Continue pedaling - Return to balanced position at new speed
<i>Agility</i>	Move Limbo	- Look/Identify/ React- choose appropriate line, speed A - Brake if needed C	- Coast, pedals in neutral position B - Lower trunk over handlebars; push butt back off seat to further lower trunk if needed for very low clearance B - Duck head just at critical instant - Pass under obstacle; speed maintained			- Continue pedaling - Return to sitting neutral position at new speed

<i>Agility</i>	Move Pickup & Drop	- Look/Identify/React- choose appropriate line, speed A - Brake if needed C	- Take one hand off handlebars; - Maintain balanced weight/balance B	Grasp, lift object (bottle)	Lower object & weight transfer to side to counter-balance	- Return hand to handlebars - Continue pedaling Return to balanced position
<i>Agility</i>	Drop-off	- Look/Identify/React- choose appropriate line, speed A - Brake if needed to walking speed C - Move to ready position	Brake and look over edge of drop, pedals level; decide to drop B+C.	- Transfer weight back and extend arms, trunk low to bike ("push") - Coast over drop-off B+C	Ride drop-off; balance maintained	- Front wheel "hits" bottom; absorb shock with knees and elbows (weight transfers forward) - Extend elbows to return to ready position - Resume pedaling
<i>Agility</i>	Lift Front	- Look/Identify/React- choose appropriate line, speed A - Brake if needed to walking speed C - Move to ready position	Quickly weight the front wheel as obstacle is reached; compress F suspension B	- Instantly unweight the front wheel as obstacle is reached; lift head & shoulders; weight transfer up and back B, and simultaneously. - Pull handlebars toward chest B+C	Pass over obstacle; speed maintained	- Rear wheel rolls over obstacle; absorb shock with knees and elbows - Continue pedaling, return to sitting balanced position
<i>Agility</i>	Mount/Dismount Straddle mount	- Stand on left side of bike - Hands on handlebars - Left pedal up	- Swing right leg over bike, straddle B - Left foot on left pedal (up)	- Push (pedal with left foot C - Move right foot onto right pedal	- Pedal - Maintain balance	Pedal away

<i>Agility</i>	Mount/Dismount Bail	• Look/Identify/React- choose appropriate line, speed, pick a landing spot A • Move to ready position	• Unclip shoes from pedals if using cleats C	• Lean toward safe landing spot and move foot down • Brake while continuing to lean B+C • Put foot ahead if descending, behind if climbing • If bike is still rolling (emergency bail), as foot reaches ground, lift other leg over saddle and push bicycle away (goal is two feet on ground and bicycle falling to other side)	• Slow bail: bike stops as one foot hits ground, rider balanced and stable • If emergency bail: goal is two feet on ground and bicycle falling to other side	• Restart, ride away
<i>Spatial Sense</i>	Group Bump	• Look/Identify/React- choose appropriate line, speed, distance A • Brake if needed C	• Align shoulder with shoulder of other rider – match speed	• Small weight transfer to side (lean upper body while keeping bicycle vertical)	• Bump elbows; maintain balance	• Resume normal pedaling • Maintain or initiate new skill
<i>Spatial Sense</i>	Group Buzz	• Look/Identify/React- choose appropriate line, speed, distance A • Brake if needed C	• Align F wheel with R wheel of other rider – match speed	• Modulate speed until wheels touch; maintain ready position	• Touch wheels; maintain balance	• Resume normal pedaling • Maintain or initiate new skill

[Return to Workbook, p. 72](#)

Analyzing Skills: Breaking Down a Skill

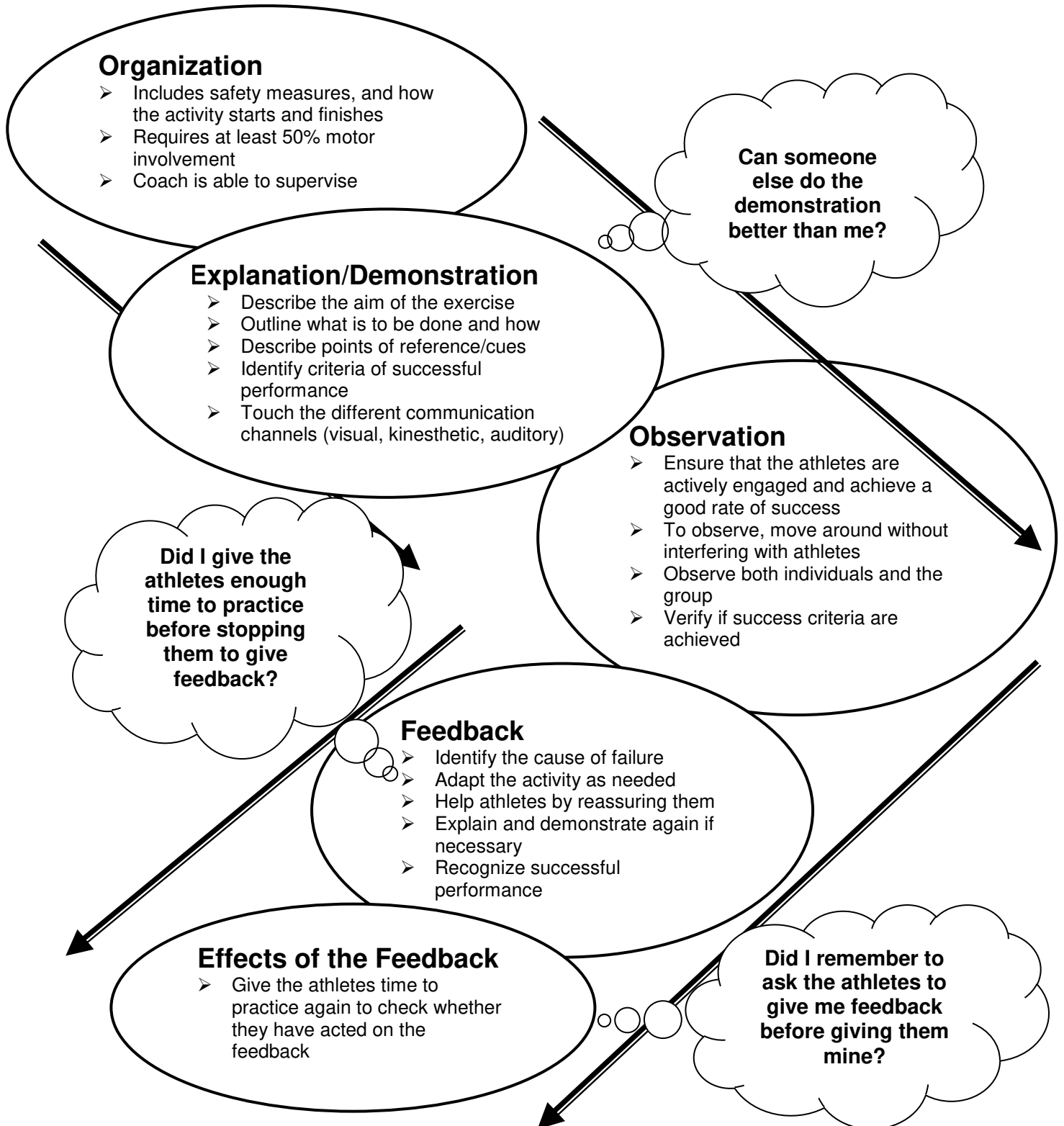
- 1) To analyze a skill performance, follow three steps: (1) Intention – what is the intention and purpose for the skill? (2) Detection – how can the coach identify and analyze the movements in the skill? (3) Correction – how can the coach support the further development of the skill?
- 2) **Intention:** Identify the purpose of the skill in the sport. Why is this skill being performed? What advantage will be gained, or what next step will follow, from performing the skill?
- 3) **Detection:** Take a look at the **Observing the Movement Phases Worksheet** (next page). Review the five phases of a skill:
 - Preliminary movements – initial stance, set-up and positioning;
 - Backswing movements – movements that prepare for force production;
 - Force-producing movements – often a swing, rotation, push or thrust;
 - Critical instant – usually the moment of contact;
 - Follow-through movements.
- 4) Identify each of the movement phases for a skill of your choice. Record your information in the **Observing the Movement Phases Worksheet**.
- 5) **Correction:** What are all the factors which could affect how the skill is performed? Did you think of all the possibilities? For example, did you think of:
 - 1) *Equipment:* Correct type, fit, tuning?
 - 2) *Environment:* Weather, lighting, surface?
 - 3) *Affective:* Fear, motivation, interest, self-belief?
 - 4) *Cognitive:* Understanding, knowledge, focus, cue recognition?
 - 5) *Physical:* Strength, speed, flexibility, fatigue?
 - 6) *Tactical:* Decision-making, mental plan, competitive experience?
 - 7) *Technical:* Stage of learning, phase of movement, biomechanics?
- 6) Based on the possibilities for correction and improvement, what is the best strategy for supporting the learner to improve- modify the task, equipment or setting? Simply allow more practice time? Intervene and give corrective feedback? Other?

Observing the Movement Phases Worksheet

[Return to Workbook, p. 73](#)

Movement Phase	Column 1	Column 2	Column 3
	This phase is best observed from...	Allowing me to observe these KPFs...	Which enables the athlete to...
Preliminary	One o'clock position	Lateral shift of centre of gravity in the middle of the base of support	Maintain balance and stability
Backswing			
Force-producing			
Critical Instant			
Follow-through			

REPRESENTATION OF THE TEACHING PROCESS



KEY ELEMENTS OF EACH STEP IN THE TEACHING PROCESS

Step 1: Organization

- Always think about how to begin and finish an activity or a drill.
- Always take into account the safety issues of the activity or drill.
- Organize the activity in a way that allows each athlete to remain active during at least 50% of practice time.
- Organize the activity in a way that enables athletes to progress at their own pace.
- Set up the environment in such a way as to allow yourself to move around and see every athlete without interfering.
- Ensure each athlete has the maximum possible amount of practice time (number of repetitions)
- Always plan for the equipment that will be used during the activity or the drill, prepare them ahead of time and make sure they are available at the time of the activity.

ASK YOURSELF THESE QUESTIONS → BEFORE AND AFTER THE PRACTICE

Did I set up the practice or the activity in a way that:

1. Enabled each of the athletes to be actively engaged for at least 50% of the time?
2. Allowed me to spend more than half my time with individual athletes?
3. Enabled each athlete to progress at his/her own pace, respecting the athlete's starting point?
4. Gave me sufficient time to observe the athletes?

Practice **Organization**

Coach: _____

Observer: _____

The set up for the activity was:

_____ Quick and efficient

_____ Quick but not efficient

_____ Neither quick nor efficient

The athletes began the activity:

_____ Quickly and correctly

_____ Quickly, but not correctly

_____ Correctly, but not quickly

_____ Neither quickly nor correctly

During the activity:

Good use was made of the available equipment:

Yes () No ()

Good use was made of the available space:

Yes () No ()

Good use was made of the available time:

Yes () No ()

Groupings were adequate:

Yes () No ()

Athletes practiced in safe conditions:

Yes () No ()

In the practice, the athletes are actively engaged:

_____ Most of the time (50 % or more of the time)

_____ Moderately (30-50 % of the time)

_____ Insufficiently (30 % or less of the time)

Step 2: Explanation and Demonstration

- Tell the athletes the object of the exercise or drill.
- Always give the athletes some cues or reference points (what he/she should look for or feel while performing). Effective cues are short, clear, simple and not too many (two or three).
- A cue is a precise piece of information that enables the performer to control a movement. It must be observable by the coach and easily understood by the athlete. There are two types of cues: external and internal.
 - An EXTERNAL CUE can be seen or heard by the athlete.
 - An INTERNAL CUE is perceived internally by the athlete (kinesthetic sensations).
- Suggest to athletes that, *while executing the movement*, they should pay attention to or concentrate on (1) something external to their body (e.g., a target); or (2) the expected outcome of their movements, and not too much on how the movement is being performed or on what they feel. In motor learning, this type of instruction is called *external focus of attention*.
- Always show and tell the athlete what successful performance will look and feel like (how will the athlete know that he or she has succeeded?).
- Be sure to use appropriate words, movements, or visuals (if possible) to take into account the preferred learning style of each athlete (visual, kinesthetic, and auditory).

ASK YOURSELF THESE QUESTIONS DURING AND AFTER THE PRACTICE

Did my explanations and demonstrations enable me to:

1. Create a clear picture of *what* I wanted to see happen and *how*?
2. Describe the logistical and organizational aspects of the drill/activity?
3. Emphasize the most important aspects (reference points, external focus)?
4. Pass on information on the “why” of things (e.g., the reasons why a movement should be done in a particular way)?
5. Respect the athletes’ individual learning styles?
6. Check for understanding?

Practical Applications of Recent Research in Motor Learning: Key Points on Giving Instructions

Recent research in the area of motor learning has focused on the effectiveness of different ways of giving instructions. Among others areas of interest, researchers have tried to determine what athletes should focus on *during* the execution of a motor task: (1) on the way the movement or skill is performed (internal focus); or (2) on an external element or the anticipated effect of the movement (external focus). The key points from these studies are summarized below.

- **To promote learning, instructions should be given in such a way as to focus the athlete's attention on some external factor and/or the anticipated effect of his/her movement, rather than on the way the movement is executed**

Focusing too much on the way to perform a particular movement, e.g., focusing on the position of the elbow and how to make a flick of the wrist at the end of the movement, can be detrimental to motor learning. During the execution of the movement, it seems to be more effective to draw the athlete's attention to some external factor, (e.g., the target to hit, or the expected outcome of the movement like the particular trajectory to impart to a ball) rather than internal elements (e.g., feeling each phase of the movement during its execution). Research on this topic is known as "focus of attention".

There is ample evidence to suggest that instructions whereby the athlete is asked to focus attention on some element external to his/her body have a positive impact on both short-term performance (i.e. during the practice session) and longer-term performance; this type of instruction therefore appears to promote both learning and retention of skill. In addition, instructions of this type appear to be effective for most sports skills, and whatever the level of the performer. Finally, the positive effects of this type of instructions on both performance and learning do not appear to affect negatively the *form* of the movements; in other words, the quality of the execution does not appear to suffer.

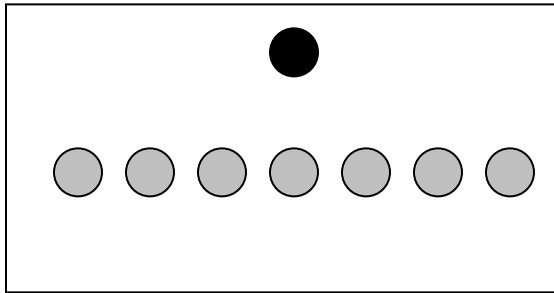
- **If possible, external focus should be directed towards an element, and anticipated effect, or an outcome which is far from the performer's body**

Current research suggests that the most effective approach requires the learner to focus on an expected outcome situated as far as possible from the athlete's body, but which can nevertheless still be directly linked to the movement itself.

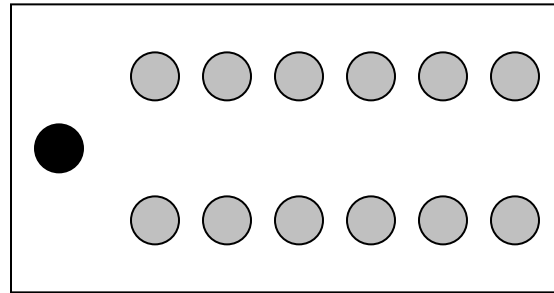
Choosing a Formation for Giving an Explanation or a Demonstration

It is important to choose an effective formation in order to be seen and heard by the athletes. The choice of formation depends on the space available, the kind of message (information, explanation, demonstration) and the number of athletes. The diagrams below show common formations.

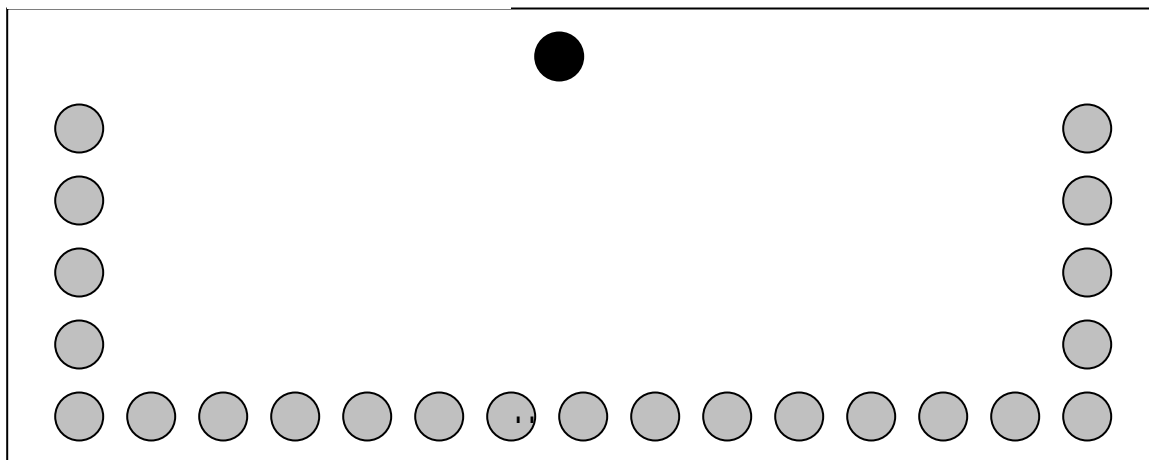
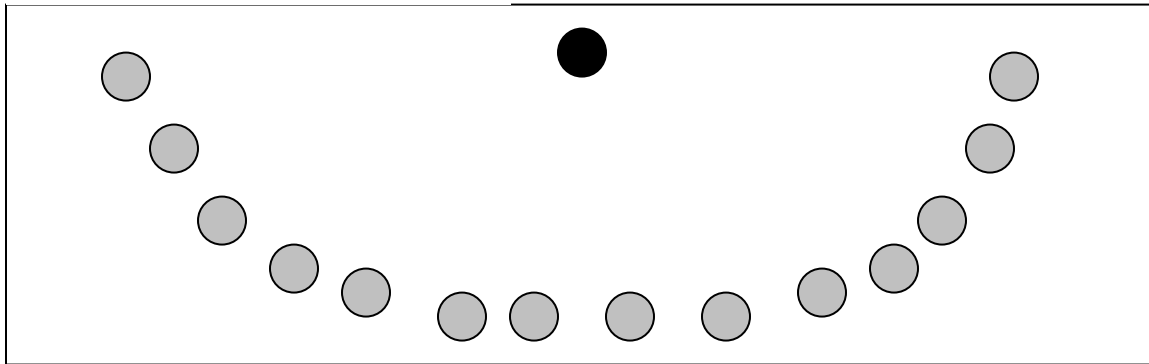
Straight line



Two lines



Semi-circle



Adapting the Basic Formations

These basic formations can be adapted to meet the needs of larger groups, for example:

- Make two rows: the front row kneeling or sitting, and the second row standing.
- Make three rows: front row sitting, the second kneeling, and the third standing.

Control Distractions

The athletes must be arranged with potential distractions behind them, for example:

- Sun in their eyes
- Reflections
- Activity in the street
- Other groups of athletes training
- Spectators

Choose a Good Vantage Point for the Athletes

It is important to ensure that the athletes have a good vantage point to watch the demonstration. Think of the best vantage points for the athletes in relation to the formation you have chosen **before** you begin the demonstration

If you need to, turn 90 or 180 degrees and do the demonstration again so that everyone can have several views of the demonstration, and has the opportunity to observe from the best vantage point. However, avoid doing the demonstration too many times as it may take too much time, and the athletes who have already seen it enough may “switch off”.

Demonstration

Coach : _____ Observer : _____

		Demo 1		Demo 2	
1	Equipment was ready for the start of the demonstration	Yes	No	Yes	No
2	Organization of the athletes was appropriate	Yes	No	Yes	No
3	Demonstration gave a good general idea of the technique or movement	Yes	No	Yes	No
4	Demonstration directed the attention of the athletes to an external focus (target, outcome, expected effect)	Yes	No	Yes	No
5	Coach pointed out what should be avoided	Yes	No	Yes	No
6	Demonstration was repeated from different angles	Yes	No	Yes	No
7	Athletes were involved in the demonstration in an appropriate way	Yes	No	Yes	No
8	Coach identified internal and external points of reference	Yes	No	Yes	No
9	Coach explained the reason for doing the activity/drill (link with previous practices, etc.)	Yes	No	Yes	No
10	Coach checked that the athletes had a good understanding of what needs to be done	Yes	No	Yes	No
11	Technical elements of the demonstration were executed correctly	Yes	No	Yes	No
12	Amount of information provided by the coach was appropriate (clear, short, accurate)	Yes	No	Yes	No
13	Coach used vocabulary respecting the three learning styles	Yes	No	Yes	No
14	Coach emphasized safety aspects when appropriate	Yes	No	Yes	No
15	Coach's voice was loud enough and projected well enough	Yes	No	Yes	No

Comments:

Overall assessment:

- () Excellent performance
- () Good performance, some adjustments required, but generally well done
- () One or two serious mistakes, room for improvement, but acceptable
- () Not acceptable, several serious mistakes

Step 3: Observation

- Ensure that the athletes get involved in the activity quickly (rapid transition).
- Always ensure athletes have a clear understanding of the task at hand, in view of the instructions that were given.
- Always ensure that the activity or drill is appropriate for the skill level of the athletes, and that it is not beyond their current abilities.
- Always ensure that there is a good rate of success among the athletes, i.e. most of the athletes are able to achieve the desired outcome.
- Be actively involved in the supervision of the athletes, so that you get to see ALL the athletes during the activity. Scanning the activity and moving around to watch what is going on from different vantage points enable you to be actively involved. *(Note: During sport-specific workshops, find out about the best way of moving around and observing athletes without interfering with them).*
- Be sure to watch individual athletes so that you can be aware of the individual differences in performance, and can then provide individualised feedback.
- Find out if the athletes have fun, or if they are not bored or discouraged.

ASK YOURSELF THESE QUESTIONS —————→ DURING AND AFTER THE PRACTICE

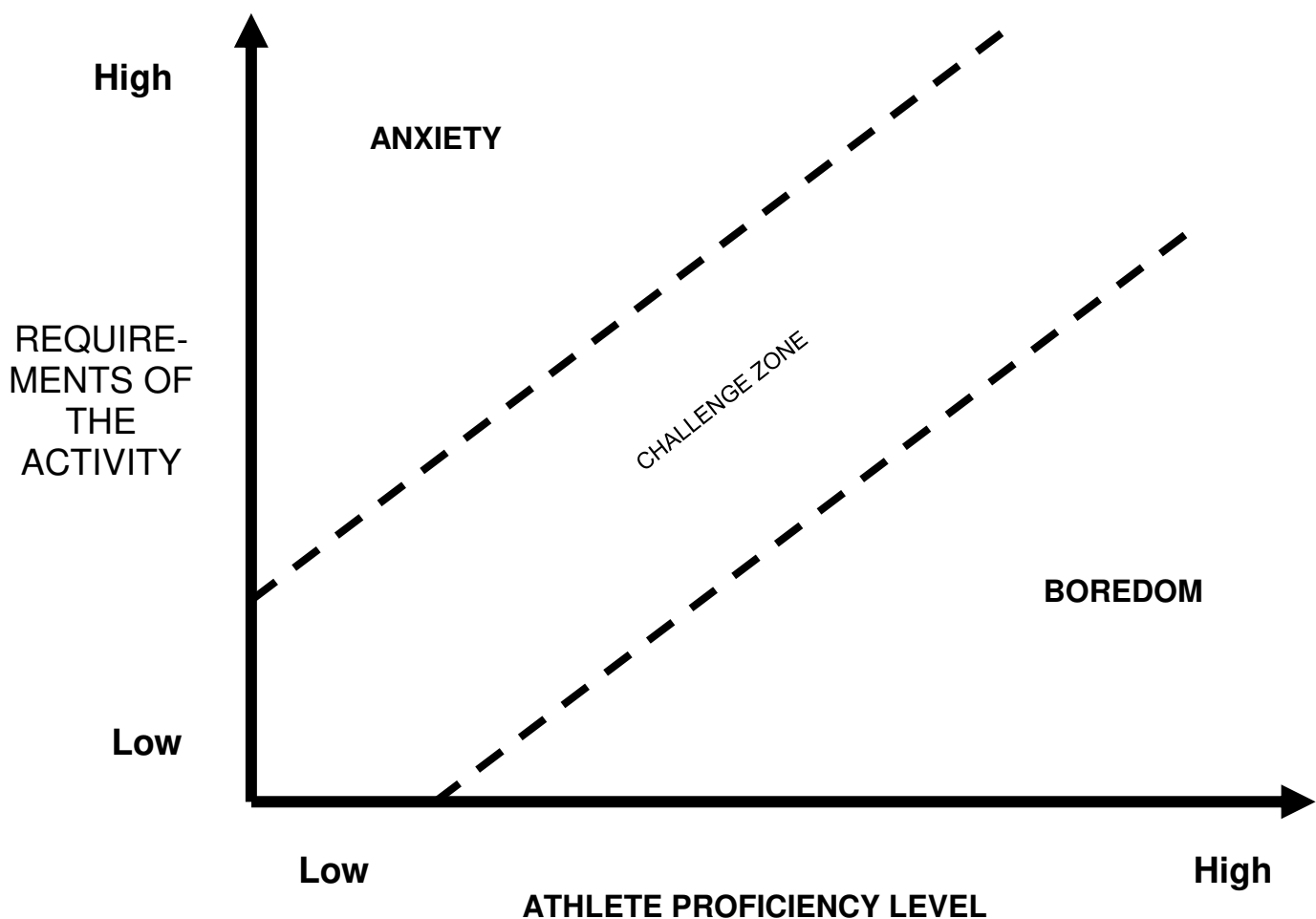
Did my supervision enable me to:

1. Keep the athletes actively engaged in the activity?
2. See all the athletes as a group and individually?
3. Observe key reference points and success criteria from different vantage points?
4. Be sure everyone is safe?
5. Evaluate the athletes' degree of success in the execution of the activity or drill?
(See Challenge Zone on the next page.)

The Challenge Zone

Or Matching the Difficulty of the Activity With the Skill Level of the Participant

While observing the athletes, the coach should verify that they are appropriately challenged by the task at hand. When the demands of an activity are too high for the participant's ability, he/she may become anxious or discouraged, and therefore may have difficulty learning. On the other hand, when the requirements are too low, the athlete may quickly show signs of boredom or lack of interest. The difficulty level associated with the task must therefore be "optimal," i.e. the participant must feel that he/she has the ability to succeed but that the **activity represents a challenge**. In other words, the athlete will be motivated to learn when challenged at the appropriate level, which implies that there must be a reasonable chance of either success or failure when he/she performs a task. ***As a general rule, if the participants' success rate is approximately 2 times out of 3, then the activity represents a suitable challenge.***



[Return to Workbook, p. 73](#)

Step 4: Giving Appropriate Feedback

In this section, we will present several steps to enable the coach to give appropriate feedback.

First step: Success or Failure? Before providing any feedback, the coach must first identify whether or not the athlete is succeeding in the activity.

Second step: Categories of Intervention Once an evaluation of the athlete's performance is made and the coach has determined whether or not the athlete is experiencing success, an appropriate type of intervention must then be chosen. Various types of interventions are listed in Table 1. The first type of (inhibiting) is obviously not appropriate, and therefore should not be used. Among the other options, some are more effective when the athlete cannot perform the task successfully, and others when he/she can. These particular aspects are dealt with in the following pages.

Table 1
Five Types Of Intervention ¹

Types of Intervention	Behaviours or Actions by the Coach
A. Inhibiting	1. Do nothing. 2. Shout, rebuke.
B. Repeating	3. Repeat instructions. 4. Demonstrate or repeat previous demonstration.
C. Explaining	5. Explain how to do it right (verbal or reference point). 6. Question the athlete.
D. Helping	7. Reassure, encourage. 8. Have the athlete start again.
E. Adapting	9. Use different equipment or practice areas. 10. Reduce difficulty level or give more time.

¹ Adapted from Target, C. and Cathelineau, J. (1990). *Pédagogie sportive*. Vigot. Collection Sport et enseignement.

General Comments about Feedback

- Timing is everything for giving feedback: the athlete needs to be open to hearing it, and near enough to hear you.
- Draw the athlete's attention to some element external to his/her body or to the anticipated effect of the movement rather than on the way the movement is being done.
- Let the athletes practice without always interrupting them. The more you talk, the less they can practice!
- Repeating the same general comments, (e.g., "That's great!", "Keep going!") is not enough. It's not that it is bad, but effective feedback is more than simply general encouragement.
- To promote acquisition and development of skills, information given must be specific.
- To be useful, feedback must also be accurate. To be accurate, the coach must: (1) really know the skills the athlete is working on; (2) have a clear reference point as far as correct execution is concerned; and (3) be in the right place to observe the athlete's performance.
- In the case of motor skills, a demonstration (i.e. non-verbal feedback or the execution of a very precise movement) is often useful feedback to give to the athlete.
- Feedback given to the whole group is often effective.
- Although feedback is important and contributes to learning, avoid giving feedback too often, or too much at any one time.
- Remember that it is always the quality and quantity of feedback that determines its effectiveness.

When providing feedback to athletes, coaches should aim at the following:

- Positive feedback should be offered more often than negative feedback.
- Specific feedback should be offered more often than general feedback.
- *A good balance should be struck between descriptive and prescriptive feedback (Note: descriptive feedback that is both specific and positive may influence the athlete's self-esteem in a positive way).*

Third step: Saying the Right Thing. Thus far, we have seen that the coach must first determine whether the athlete is succeeding or failing, and then decide what kind of intervention is best in either case. We will now see what each type of intervention sounds like in words.

Types of Feedback

Types	Definitions	Examples
Evaluative	The coach assesses the quality of the performance; he/she makes some kind of assessment or judgment	• That's fine! • Good job! • No, not like that! • Not good enough!
Prescriptive	The coach tells the athlete how to execute the skill next time	• Throw it higher! (general) • Get your arm higher! (specific)
Descriptive	The coach describes to the athlete what he/she has just done	• The build-up was too slow (general) • Your legs were really extended (specific)

ASK YOURSELF THESE QUESTIONS → DURING AND AFTER THE PRACTICE

Was my feedback:

1. Specific, not general, for example: "You did _____ perfectly!" instead of "That's fine!"?
2. Positive and constructive, not negative and humiliating?
3. Directly linked to the skill or behaviour to be improved?
4. Informative and relevant to the most important performance factors?
5. Balanced, i.e. it contained information on what has been done well, and also on what still has to be improved, for example: "Your _____ (movement) is better than last time. The next thing to do would be to _____ (add another level of complexity to the movement, or a particular piece to refine)"?
6. Clear, precise and easy to understand by the athlete, e.g. were the words I used simple?

Practical Application of Recent Research in Motor Learning: Key Points on Giving Feedback

Until recently, the vast majority of coaching publications recommended that, to be effective in helping athletes correct mistakes and improve performance, feedback had to be provided:

- As often as possible.
- As soon as possible after the execution of the movement or task.
- In the most precise manner possible.

During recent years, however, researchers have re-examined some of these recommendations on the grounds that they were based on studies of the short-term improvement of performance rather than on the effects of longer-term learning, which is clearly the ultimate aim of coaching.

While the recommendation regarding the importance of providing clear and specific feedback remains unchanged, the most recent data concerning feedback indicate that:

- **Feedback must require some reflection or cognitive effort on the part of the learner.** Feedback must be seen as supporting information that the learner is expected to interpret and use in an active way; as such, it should require some analysis and decision-making by the learner. Feedback must encourage the athlete to be an independent and autonomous learner, and look for solutions to the particular challenges posed by the practice. The longer-term objective is that the athlete becomes able to maintain and modify performance without the coach's intervention.
- **Very frequent feedback does not promote learning.** A comparison between intermittent feedback (after every two or three repetitions or even less frequently) and frequent feedback (after every repetition or attempt) shows that very frequent feedback does not promote learning. In other words, more is not necessarily better.
- **Feedback given during the execution of the task may lead to short-term performance improvement, but is not optimal for promoting learning.** Feedback provided while an individual performs a task appears to boost performance in the short-term, but actually degrades learning compared to feedback provided after the execution of the task. *(In this case, it is particularly important to understand the difference between performance and learning in order to get things in perspective).*

- **The least effective approach: frequent feedback during the execution.** The negative effect of the phenomenon described in the preceding paragraph is made even more striking when feedback is given very often while the learner is practicing: while it may lead to short-term improvement, it also tends to create dependency on this kind of feedback, which can impair longer-term learning.
- **In the short-term, “summary feedback” is not as effective as “instantaneous feedback”, but it does lead to superior learning and retention of skills.** Summary feedback is a method of giving feedback after several attempts or repetitions of a task, in such a way as to give (1) an objective view of tendencies observed during the execution of a movement, for example by producing a graph showing how performance varies from one attempt to another; or (2) information about the “average” performance achieved after several repetitions. Compared with “instantaneous feedback” (that is, feedback given after every repetition), summary feedback does not lead to rapid, short-term acquisition of new motor skills; however, it leads to superior long-term learning and better retention of skills
- **To promote learning, feedback should only be given when the difference between the athlete’s performance and the desired result requires it.** Bandwidth feedback refers to the practice of providing feedback only when performance is outside an acceptable range of correctness, for instance, when it falls outside a range of $\pm 25\%$ of the acceptable “target result”. The “target result” can be either the form of the movement or the precision of the execution. Motor learning research indicates that using a relatively large bandwidth is beneficial for learning. This tends to (1) reduce the frequency at which feedback is provided; (2) promote summary feedback whereby the participant may be encouraged to compare less successful attempts with those that fell within the “acceptable range of performance”; and (3) develop a degree of autonomy and ability to engage in self-analysis of performance by the athlete. In this last case, the coach may ask the athlete to compare his/her self-analysis with the information given by the coach about correct or incorrect execution of the task.

Another aspect that has been studied recently is the nature of the feedback given to the learner. Among other things, researchers have sought to determine what participants should be told to focus on during the execution of a motor activity: (1) on the way the movement is performed (internal focus); or (2) on some external focus, or on the anticipated effects of the action (external focus). Major research findings in this area are summarized on the next page.

- **To promote greater learning, feedback should direct the attention of the learner towards some external focus of attention or on the anticipated effects of the movement rather than on the way the movement is performed.** When a movement is being performed, focussing too much attention on the way it is being executed (for example, thinking about the exact position of the elbow, and the flick of the wrist at the end of the movement) may delay motor learning. During the execution of the movement, it seems to be more effective to draw the athlete's attention to some external element, (e.g., the target to hit, or the expected outcome of the movement like the particular trajectory to impart to a ball) rather than internal elements (e.g., feeling each phase of the movement during its execution). Research on this topic is known as "focus of attention". There is good evidence to suggest that the type of feedback directed towards an external focus of attention has a positive impact both on the short-term performance (during the session) and the longer-term, so it promotes both learning and retention of skills. Furthermore, feedback directed towards an external focus of attention appears to be effective for most sport skills, whatever the level of the athlete. Finally, the effectiveness of this type of feedback does not appear to have any negative effect on the movements themselves; in other words, the quality of execution does not seem to be negatively affected
- **If possible, external focus should be directed towards an element or an anticipated effect that is far away from the performer.** Current research suggests that the most effective approach requires the learner to focus on an expected outcome situated as far as possible from the athlete's body, but which can nevertheless still be directly linked to the movement itself.

<i>Examples of Situations that Refer to an Internal Focus of Attention</i>	<i>Examples of Situations that Refer to an External Focus of Attention</i>
Concentrating on ... • the force exerted <u>by</u> a certain body part during movements • keeping a specific part of the body in a certain position during movement • paying attention to the arms position during a golf shot • focusing on feeling the movement during a tennis shot	Concentrating on ... • the force exerted <u>on</u> an object or implement during movements • keeping a specific object or implement in a certain position during movement • paying attention to the pendulum-like action of the club during a golf shot • focusing on the trajectory of a ball and its landing point during a tennis shot.

[Return to Workbook, p. 74](#)

Basic Cycling Skills

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB

Skill: **Braking (combined front and rear)**

Describe the skill: <i>Use both front and rear brakes together to slow or come to a complete stop.</i>	Set-up and Equipment: <i>Four cones each 10 m apart. The 2 middle cones mark beginning and end of braking area (about 10 m long).</i>
Teaching Points: • <i>Look/Identify/React (spot stop point)</i> • <i>Move to ready position</i> • <i>Apply front and rear brakes together evenly (squeeze- don't grab) and simultaneously transfer weight rear</i> • <i>Slow to desired speed or stop by target point</i> • <i>Return to balanced position; resume pedaling</i>	Observation Plan: <i>Stand beside braking area, close to stop point, and about 2 m to the side to allow room for the rider to pass.</i>
Progressions: 1. <i>Rear brake alone, front brake alone</i> 2. <i>Combined braking</i> 3. <i>Brake from higher speed</i> 4. <i>Brake in shorter distance</i> 5. <i>Brake on command from coach</i> 6. <i>Brake on slippery surface (grass, wet grass)</i>	Demonstration Plan: <i>Group stands beside braking area, facing it, about 2 m to the side. Coach enters braking area and brakes, while providing comments. If using a second demonstrator, coach stands on other side of braking area facing the group while providing comments.</i>
Errors and Corrections: <i>Skid: don't grab, apply slowly/evenly</i> <i>Partial endo: shift weight back, reduce front brake</i> <i>Stops too slowly: check condition of brakes; apply brakes harder</i>	Activity Plan for Group: <i>Group rides a loop 30 m long, passing through braking area in single file, spaced about 5 m apart. As each enters braking area, they stop and accelerate away, Coach provides feedback as they stop. Riders turn around at 1st and 4th cones and continue loop. Keep the riders well-separated.</i>
Summary/Wrap-up: <i>Remember, look ahead, squeeze both brakes and shift your weight back!</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: All

Skill: **Straight-line riding (wide to narrow surfaces)**

Describe the skill: <i>Ride in a smooth straight line with no wobbles.</i>	Set-up and Equipment: <i>Painted straight line; wooden plank; low ramp and low teeter-totter.</i>
Teaching Points: • Look/Identify line • Balanced position • Brake or pedal to adjust speed- not too slow • Move to ready position • Relax upper body, hands • Weight transfer side to side as needed • Balance maintained • Ride off in ready position	Observation Plan: <i>Front ¾ view. It's easier to see control movements from the front.</i>
Progressions: 1. Ride on painted line 2. Ride on plank flat on ground 3. Ride up/down ramp 4. Ride on teeter (note: teach bail/ride off first)	Demonstration Plan: <i>Group stands along line of travel, 2 m back, watching front ¾ view of demo rider. Demo rider shows importance of correct speed (fast enough not to wobble, slow enough to stay in control).</i>
Errors and Corrections: <i>Wobble- too slow: Speed up slightly</i> <i>Wobble- too tense: Relax hands, upper body.</i> <i>Fall off teeter: Usually too tense or too slow, or stops part way on teeter (fear)- practice riding off teeter first.</i>	Activity Plan for Group: <i>Group rides 30 m loop, single file, spaced 5 m apart. Coach provides feedback as they enter observation zone. Remind riders to maintain space between themselves.</i>
Summary/Wrap-up: <i>Pick the right speed and relax your hands and arms.</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: All

Skill: **Tight turns**

Describe the skill: <i>Ride a 180 degree turn in a narrow space (eg switchback).</i>	Set-up and Equipment: <i>Cones or chalk-line path requiring rider to turn with less than 0.5 m clearance. Set up several stations (1 for every 2 riders is ideal).</i> <i>Use Bullseye Circle course first.</i>
Teaching Points: • <i>Look/Identify/ React- choose line, spot obstacles</i> • <i>Move to ready position</i> • <i>Brake as needed to modulate speed</i> • <i>Look across turn (line)- turn head as needed</i> • <i>Weight transfer side to side as needed to maintain balance- standing on level pedals</i> • <i>Light rear brake and move pedals as needed to regulate speed (pedal, coast or ratchet)</i> • <i>Steer front wheel as wide as possible in space available</i>	Observation Plan: <i>Watch from side, 2 m away. Look for balance and front and rear wheel paths (the front turns in wider space).</i>
Progressions: 1. <i>Wider to narrower space (cones, lines)</i> 2. <i>Series of L and R tight turns (snake)</i> 3. <i>Turn while climbing or descending</i>	Demonstration Plan: <i>Group watches from side, 2 m back. Best to have a separate demo rider, coach provides comments facing group.</i>
Errors and Corrections: <i>Front wheel hits cone: slow down, focus</i> <i>Rear wheel hits cone: steer front wheel wider around cone (rear follow tighter path)</i> <i>Rider dabs: speed too fast/slow, modulate rear brake, ratchet</i>	Activity Plan for Group: <i>Riders take turns riding the tight turn at their stations.</i> <i>Follow with Survivor Game if desired (similar control skill).</i>
Summary/Wrap-up: <i>Practice using your rear brake and ratcheting to keep you at the right speed while you turn.</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB

Skill: **Gearing and cadence**

Describe the skill: <i>Choose the appropriate gear to maintain cadence (usually 60-90 revs per minute) in different conditions (climbing, flat riding, downhill)</i>	Set-up and Equipment: <i>4 cones spaced 10 m apart to create a 30 m demonstration loop with 10 m observation zone in middle.</i>
Teaching Points: <i>Look/react to terrain</i> <i>Shift gear to maintain same cadence</i> <i>If shifting on hill, soft-peddalling can ease gear change</i>	Observation Plan: <i>Front ¾ view. It's easier to see control movements from the front.</i>
Progressions: <i>Changing gear on flat ground</i> <i>Changing gear while climbing a hill</i>	Demonstration Plan: <i>Coach demonstrates gear action by shifting stationary bike (held by another, or inverted, or on stand).</i> <i>Then, group stands along line of travel, 2 m back, watching front ¾ view of demo rider. Demo rider changes gears on command.</i>
Errors and Corrections: <i>Selects wrong gear for terrain: try again (maintain cadence)</i>	Activity Plan for Group: <i>Riders practice gearing up and down, front and rear, independently.</i>
Summary/Wrap-up: <i>Remember to look ahead and choose a gear to match the terrain. Practice makes perfect!</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB, BMX

Skill: **Cornering (medium-speed)**

Describe the skill: <i>Travel around a medium-speed corner, following the fastest line while maintaining speed and balance.</i>	Set-up and Equipment: <i>Set up a series of cones or chalk line corner path.</i>
Teaching Points: • <i>Look/Identify/React-choose appropriate line</i> • <i>Ready position</i> • <i>Inside pedal is up</i> • <i>Initiate turn with slight bike lean with arms</i> • <i>Body stays upright, balanced over outside (low) pedal, bike leans through turn</i> • <i>"Put weight on outside (down) pedal" cue</i> • <i>Hit correct line, speed maintained</i> • <i>On exit, move back to balanced position; resume normal pedaling</i>	Observation Plan: <i>Coach stands inside corner path 2 m back. Look for space between the rider and saddle, allowing the bike to lean while trunk stays upright.</i>
Progressions: <i>1. Increase speed</i> <i>2. Series of corners right, left</i>	Demonstration Plan: <i>Riders stand in a line inside the corner 2 m back. Coach stands outside the corner giving commentary while a demo rider performs the skill.</i>
Errors and Corrections: <i>Inside pedal down: correct</i> <i>Misses line- speed too high: slow before corner</i> <i>Not standing on pedals therefore body leans with bike: this is acceptable on the road but in loose conditions preferable to lean bike and hold body erect.</i>	Activity Plan for Group: <i>Riders ride single file 5 m apart in a loop, passing through the observation zone one at a time.</i>
Summary/Wrap-up: <i>Look, ready position, lean the bike and keep your head and body up.</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB, BMX

Skill: **Front wheel lift**

Describe the skill: <i>Lift the front wheel to clear an obstacle (eg log).</i>	Set-up and Equipment: <i>Pool noodle on ground to simulate log.</i>
Teaching Points: • Look/Identify/ React- choose appropriate line, speed • Brake if needed to walking speed • Move to ready position, pedals level • At obstacle, weight (preload) front wheel and instantly unweight the front wheel as obstacle is reached; lift head & shoulders; weight transfer up and back; simultaneously pull handlebars toward chest • Rear wheel rolls over obstacle; absorb shock with knees and elbows • Continue pedaling, return to sitting balanced position	Observation Plan: <i>Coach stands at obstacle observing from side. Look for strong pre-load and immediate lift of the trunk (coordinated movement).</i>
Progressions: 1. Basic skill- pool noodle 2. Larger obstacle- up to 10 cm	Demonstration Plan: <i>Group lines up along path of travel at obstacle. Coach either demonstrates and comments, or has an assistant demonstrate and comments while facing group.</i>
Errors and Corrections: <i>Not enough wheel lift- bring handlebars to chest</i> <i>Not enough wheel lift- lift torso up</i> <i>Not enough wheel lift- heavy bike and small (young rider)</i>	Activity Plan for Group: <i>Group rides 30 m long loop single file spaced 5 m apart. As they enter/exit observation zone (obstacle) coach provides feedback. Remind riders to remain spaced apart.</i>
Summary/Wrap-up: <i>Correct speed, preload and spring up while pulling the bars.</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: All

Skill: **Pick up and drop an object**

Describe the skill: <i>While riding, pick up an object (eg water bottle) with one hand from a low platform/ground and replace it on a similar platform/ground after a few pedal strokes.</i>	Set-up and Equipment: <i>Two low tables/platforms about 30 cm high, spaced about 10 m apart. Set up two stations if possible.</i>
Teaching Points: • <i>Look/Identify/React- choose appropriate line, speed</i> • <i>Brake if needed</i> • <i>Lean trunk toward object- bike leans opposite to maintain balance</i> • <i>Grasp, lift object (bottle)</i> • <i>Lower object & weight transfer to side to counter-balance</i> • <i>Return hand to handlebars</i>	Observation Plan: <i>Coach stands 2 m away from tables to one side. Look for lean of body while bike leans the opposite way to maintain balance..</i>
Progressions: <i>1. Lower platforms</i> <i>2. No platform- bottle on ground</i>	Demonstration Plan: <i>Group stands in a line parallel to direction of travel, at pick-up point. Coach demonstrates while providing comments.</i>
Errors and Corrections: <i>Can't pick up: too fast- reduce speed</i> <i>Can't pick up: not enough lean- practice touching shoe, other activities to get used to leaning to side.</i>	Activity Plan for Group: <i>Group rides in single file 10 m apart. Each rider picks up and drops off. Coach shuttles bottles back to pick-up table for next riders. More stations are preferable as riders may drop or knock over bottles.</i>
Summary/Wrap-up: <i>Slow down, lean to the side while letting the bike lean the other way...that's it!</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB

Skill: **Hill climbing (sitting)**

Describe the skill: <i>Climb a hill while sitting in the saddle.</i>	Set-up and Equipment: <i>None (small hill 10-20 m long)</i>
Teaching Points: • <i>Look/Identify/React- choose appropriate line</i> • <i>Change gear as needed at bottom</i> • <i>Weight transfer forward, lower trunk</i> • <i>Continue pedaling while maintaining forward weight distribution</i>	Observation Plan: <i>Coach stands at top of hill facing climbing rider. Look for selection of correct gear at bottom, weight transfer forward and low trunk over handlebars.</i>
Progressions: 1. <i>Basic seated climb</i> 2. <i>Standing climb (see skills)</i> 3. <i>Crouching climb (see skills)</i>	Demonstration Plan: <i>Group stands at top of hill. Coach explains skill at top, descends, demonstrates, and re-caps skill. Alternately coach stands with group and comments while a separate demonstrator climbs the hill.</i>
Errors and Corrections: <i>Stops on hill: gear down at bottom</i> <i>Front wheel lifts: shift weight forward on saddle, lower trunk over handlebars.</i> <i>Front wheel wanders: shift weight forward on saddle, lower trunk over handlebars, relax hands and let the bike follow its path.</i>	Activity Plan for Group: <i>Ideally this skill is paired with descending so riders can practice both as they climb, turn and descend. Space riders about 10 m apart and have them climb in single file, either stopping 10 m after top, or descending in a continuous loop. Note: more space is needed as some riders may stop on hill.</i>
Summary/Wrap-up: <i>Pick a low gear at the bottom, shift forward, look up, and pedal!</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: Road, MTB

Skill: **Descending**

Describe the skill: <i>Descend a hill in control.</i>	Set-up and Equipment: <i>None (small hill 10-20 m long)</i>
Teaching Points: • <i>Look/Identify/React- choose appropriate line, speed</i> • <i>Brake if needed</i> • <i>Move to ready position</i> • <i>Look at path (line)- turn head as needed</i> • <i>Weight transfer back (more for steeper descent)</i> • <i>Pedals in level position</i> • <i>Steer, weight transfer side to side as needed</i> • <i>Descent completed speed maintained</i> • <i>Change gear as needed</i> • <i>Resume pedaling</i>	Observation Plan: <i>Coach stands at bottom of hill facing descending rider. Look for head up/eyes ahead, weight transfer back, level pedals and hands on brakes.</i>
Progressions: 1. <i>Steeper hill</i> 2. <i>Turns on hill</i> 3. <i>Loose surface on hill</i>	Demonstration Plan: <i>Group stands at bottom of hill. Coach explains skill at bottom, climbs, demonstrates, stops and re-caps skill. Alternately coach stands with group and comments while a separate demonstrator descends the hill.</i>
Errors and Corrections: <i>Too fast- not in control: remind to modulate brakes and use more rear brake on way down.</i> <i>Too slow: recommend no front brake, less rear.</i> <i>Unstable: transfer weight more to rear.</i>	Activity Plan for Group: <i>Ideally this skill is paired with climbing so riders can practice both as they climb, turn and descend. Space riders about 10 m apart and have them descend in single file, either stopping 20 m after bottom, or descending in a continuous loop. Note: more space is needed as riders will descend at different speeds. Ensure safe run-out area at bottom.</i>
Summary/Wrap-up: <i>Look up, push back, and use your brakes to stay in control.</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: MTB, Road

Skill: **Drop-off**

Describe the skill: <i>Ride a "drop-off" (small, steep descent) in control.</i>	Set-up and Equipment: <i>None (small drop-off, such as a curb. Do not use a drop-off more than approximately 1 m deep).</i>
Teaching Points: • <i>Look/Identify/ React- choose appropriate line, speed</i> • <i>Brake if needed to walking speed</i> • <i>Move to ready position</i> • <i>Brake and look over edge of drop, pedals level; decide to drop</i> • <i>Transfer weight back and extend arms, trunk low to bike ("push bike ahead")</i> • <i>Coast over drop-off, pedals level</i> • <i>Front wheel "hits" bottom; absorb shock with knees and elbows (weight transfers forward)</i> • <i>Extend elbows to return to ready position</i>	Observation Plan: <i>Stand at bottom of drop-off, 2 m to side. Watch for slowing/scan at top, weight shift back, level pedals and no brakes.</i>
Progressions: <i>1. Larger drop-off (to 1 m)</i>	Demonstration Plan: <i>Group stands at bottom of drop-off. Coach explains from top, demonstrates, and re-caps at bottom.</i>
Errors and Corrections: <i>Endo- front brake: do not use brakes. Slow at top.</i> <i>Endo- weight not back: push weight back or even off back of saddle.</i> <i>(These should not occur on a small drop-off such as a curb.)</i>	Activity Plan for Group: <i>Group waits 5 m from top of drop-off. Riders attempt individually on signal from coach (when path is clear.)</i> <i>Note: if front wheel lift has already been taught and a curb is used for drop-off, make a circuit down the curb, around a loop, then lifting front wheel up the curb in a different location.</i>
Summary/Wrap-up: <i>Make sure it's safe, then push the bike over the edge with your weight well back. No brakes!</i>	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: MTB, Road

Skill: **Bumping**

Describe the skill: <i>Ride next to another rider and bump elbows.</i>	Set-up and Equipment: <i>Flat surface, preferably smooth grass field.</i>
Teaching Points: • <i>Look/Identify/React- choose appropriate line, speed, distance</i> • <i>Brake if needed</i> • <i>Align shoulder with shoulder of other rider – match speed</i> • <i>Small weight transfer to side (lean upper body while keeping bicycle vertical)</i> • <i>Bump; maintain balance</i>	Observation Plan: <i>Coach stands in center of area scanning pairs of riders.</i>
Progressions: 1. <i>Touch other rider with hand.</i> 2. <i>Bump shoulders.</i> 3. <i>Ride while maintaining contact between shoulders.</i> 4. <i>Lean together while maintaining contact.</i>	Demonstration Plan: <i>The coach needs a partner to demonstrate with. Group lines up and coach and partner practice bumping in front of group.</i>
Errors and Corrections: <i>Fall: too aggressive- warn to slow down and not bump too hard.</i>	Activity Plan for Group: <i>Split group into pairs. Space pairs well apart and have them try it. Warn them not to bump too hard!</i>
Summary/Wrap-up: <i>This is great practice for keeping your balance when bumped. Take it easy!</i>	

Road-specific Skills

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Road Skill/Tactic: **Accelerating and Sprinting**

Describe the skill/tactic: Accelerate hard to create a gap or win a sprint.	Set-up and Equipment: Cyclists mounted on bicycles; road (circuit, parking lot loop) marked with cones or lines every 50 m for last 200m, and finish line.
Teaching Points: • Anticipate or plan acceleration and select gear in advance • Standing on pedals, maximum acceleration • Use coordinated, alternating arm “pull” on bars to counter leg thrust and maintain straight line • Head up- look ahead	Demonstration Plan: • Cyclists stand at edge of road/track (side view) • Demonstrator does several hard, out-of-saddle accelerations • Coach points out key movements
Progressions: • Single rider maximum accelerations- maintain straight line riding • Experiment with higher and lower gears • Two-rider sprints on cue (whistle) to a designated finish line. • “Races” with 2, then 3 riders	Activity Plan for Group: • Cyclists ride a small loop or track, sprinting for 50 m once per lap from and to fixed points • After 3 - 4 sprints, cyclists in groups of 2 or 3 sprint on cue (whistle) to designated finish line 3 – 4 times. • Work in small groups of 2-3 to give each rider several trials.
Errors and Corrections: • (E) Gear too high or low; (C) Ask rider to try next higher/lower gear for next time. • (E) Rider’s arms and upper body too rigid, not allowing lateral rocking during start, resulting in failure to maintain a straight line (C) May need to experiment with starts in parking lot or safe road to learn proper coordinated arm and leg movement and degree of “rock”.	Observation Plan: • Observe from front ¾ view for lateral bike movement, riding in straight line and intensity of effort.
Summary/Wrap-up: The objective is maximum acceleration (maximum speed in shortest distance) while maintaining a straight line. “Pull” with the arms coordinated with the opposite leg’s thrust and keep your head up!	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Road Skill/Tactic: **Riding on a wheel (drafting)**

Describe the skill/tactic: Ride close behind a lead rider to save energy by “drafting”.	Set-up and Equipment: Pairs of cyclist mounted on bicycles; open road, track or parking lot area with minimum 100 m long straights. A small circuit or loop (300-400 m).
Teaching Points: • <i>Ideally riders are skilled at straight-line riding and comfortable touching/bumping other riders before learning this skill.</i> • Lead rider maintains a straight line and steady pace- the faster the pace, the more you can feel the effect. • Following rider puts the leader between themselves and the wind- more to the side in a cross-wind, straight behind in headwind • Following rider should stay within 10-15 cm of leader, and look ahead (past leader)- don't just look at the leaders wheel. • Experiment by moving slightly around leader's wheel (5-10 cm either side) and feel for best wind protection.	Demonstration Plan: • Use a diagram to explain positioning. • Then, use a walk-through: a pair of cyclists walk their bikes, the follower maintains correct distance and position to maximize “draft”. • Then, move to activity.
Progressions: • In pairs, straight line riding for minimum 200 m. • Ride a circuit - follower anticipates changing wind direction as the pair change direction and moves into correct draft position.	Activity Plan for Group: • Explanation by coach, followed by walk-through • Split into pairs, single direction, leader maintains lead for 1-2 minutes, then alternate. • Ride a circuit or loop to see how wind direction changes with direction of travel.
Errors and Corrections: • (E) Riding too slowly or too far apart for follower to feel effect; (C) Ask leader to speed up a bit, follower to relax hands/arms (steering) and remain close. • (E) Leader or follower does not ride sufficiently straight line; (C) pair an experienced leader with inexperienced follower to provide follower a smooth wheel. • (E) Follower does not anticipate or respond to change in wind direction; (C) have follower continue to experiment while riding, trying different positions relative to leader to feel the best draft protection as the pair change direction.	Observation Plan: • Coach rides alongside each pair and checks follower position from behind or rear $\frac{3}{4}$ view. • Coach may remain stationary if riders are on a small loop and observe them passing, but this is not as effective as riding with the pairs.
Summary/Wrap-up: The objective is to keep the leader between yourself and the wind, and to stay close enough to get the most protection. Relax, stay close, and keep looking past the leader to anticipate what's ahead.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Road Skill/Tactic: **Riding a pace-line or echelon**

Describe the skill/tactic: Work together in a group to share the lead then recover while drafting behind the leaders	Set-up and Equipment: Groups of 3-4 (minimum) to 6-8 (max) cyclists mounted on bicycles; open road, track or parking lot area with minimum 200 m long straights. A small circuit or loop (500-1000 m).
Teaching Points: • <i>Ideally riders are skilled at straight-line riding and drafting in pairs before learning this skill.</i> • Lead rider maintains a straight line and steady pace- the faster the pace, the more you can feel the effect. • Each following riders puts their leader between themselves and the wind- more to the side in a cross-wind, straight behind in headwind • Following riders should stay within 10-15 cm of leader, and look ahead (past leader)- don't just look at the leader's wheel. • The leader changes the lead by signalling (elbow flick) and moving 15-20 cm toward the wind. The first follower takes the leader's place; the leader eases speed and moves into position at the back of the group.	Demonstration Plan: • Use a diagram to explain positioning and rotation. • Then, use a walk-through: a group of 3-8 cyclists walk their bikes, followers maintain correct distance and position to maximize "draft", and coach signals rotation (change of lead) every 15 seconds or so. • Then, move to activity in small groups.
Progressions: • In groups of 3-4, straight line riding for minimum 1000 m. to allow 3-4 changes of lead • Ride a circuit – changes of lead every 20 seconds. Followers anticipates changing wind direction as the group changes direction and moves into correct draft position behind leader.	Activity Plan for Group: • Explanation by coach, followed by walk-through • Split into groups of 3-4, single direction, leader maintains lead for 20 seconds, then changes lead. • Ride a circuit or loop to see how wind direction changes with direction of travel.
Errors and Corrections: • (E) Leader or follower does not ride sufficiently straight line; (C) pair an experienced leader with inexperienced follower to provide follower a smooth wheel. • (E) New leader "surges" or accelerates too hard when taking the lead, creating a gap; (C) Have each rider maintain same pace as they take the lead- make it the retiring leader's job to ease and make way for the new leader. • (E) Leader drops back too quickly and fails to anticipate end of group, leaving a gap; (C) have last rider in line call "last wheel" to help descending rider anticipate and accelerate into position.	Observation Plan: • Coach rides alongside each group and checks positions from behind or rear $\frac{3}{4}$ view. • Coach may remain stationary if riders are on a small loop and observe them passing, but this is not as effective as riding with the groups.
Summary/Wrap-up: The objective is to maximize draft protection, while alternating the lead smoothly and efficiently. If the retiring leader eases off at the front, and then anticipates and accelerates as they get on at the back, gaps are not formed and the pace remains steady. Communicate with each other to ensure this happens.	

MTB-specific Skills

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: MTB Skill/Tactic: **Race starts**

Describe the skill/tactic: Start quickly and smoothly to gain position before entering single-track part of the course.	Set-up and Equipment: Cyclist mounted on bicycle; start area narrowing to single-track (may use cones to simulate) about 100 m long.
Teaching Points: • Pedal of stronger leg is raised with crank angle about 45 degrees to ground. Select best gear. • Straddle start, hands on handlebar grips. • On starter's signal, apply force to raised pedal and clip into other pedal. • Accelerate hard by pushing/pulling pedals; use hands/arms to counteract pedal force (i.e. push/pull with hands, opposing pedalling). • Remain out of saddle, accelerate to desired speed, and then return to seated pedalling.	Demonstration Plan: • Cyclists stand at edge of road/track (side view) • Pair of demonstrators do several hard, out-of-saddle accelerations; one enters single track first. • Coach points out key movements to group.
Progressions: • Begin with less aggressive acceleration and focus on quick clip-in, then work to maximum acceleration. • "Races" with 2 or 3 cyclists starting side by side; maintain straight path and capture best position to enter single track.	Activity Plan for Group: • Explanation by coach while cyclists observe starts (use experienced cyclists to demonstrate). • Work in small groups of 2-3 to give each rider several trials.
Errors and Corrections: • (E) Crank in wrong position; (C) Ask rider to position lead pedal/crank for next start. • (E) Rider's arms and upper body too rigid, not allowing lateral rocking during start, resulting in failure to maintain a straight line (C) May need to experiment with starts in parking lot or safe road to learn proper coordinated arm and leg movement and degree of "rock".	Observation Plan: • Observe from front $\frac{3}{4}$ for clip-in, gear choice and lateral bike movement, riding in straight line and intensity of effort. • As riders pass observe for positioning into single track.
Summary/Wrap-up: The objective is to start as quickly and smoothly as possible. Correct pedal position, good upper body strength and coordinated movement are essential to make the fastest starts. Does it work best to stay in one gear or to gear up when you've accelerated to speed?	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: MTB Skill/Tactic: **Body Position**

Describe the skill/tactic: Maintaining optimal body position to improve bike handling and efficiency navigating the trail. Discuss two basic body positions: 1) Neutral body position 2) Ready position A rider demonstrates optimal body position before the skill is broken down into teachable movements. Start with the end in mind.	Set-up and Equipment: Cyclist mounted on bicycle; large open area (grass field). Some pylons and a pool noodle can be used to create variations on this skill. If there are steps, curbs or other easy features that can be “rolled down” it could make for a more effective lesson.
Teaching Points: • Optimal body position helps you to navigate the trails more efficiently. • Neutral position is simply being seated, pedalling the bike in a relaxed position - head up, scanning the trail in front of you. On bumpy terrain, the rider may alternate between fully seated or hovering slightly off the seat (2-3mm) so legs and arms can absorb tiny bumps and impacts instead of transferring these to the saddle. • Neutral position can also be done in a standing position. Standing up tall. Relaxed. Scanning trail ahead. • Ready position is when the rider prepares for a challenging obstacle or feature on the trail. It is sometimes referred to as Attack position. The rider puts pedals into a horizontal position. They extend arms and legs into an athletic stance on the bike - so that the rider's weight is off the saddle and the body is positioned over the center of the bike. Elbows are bent and up. The rider's hips are bent/hinged so that the chest is kept almost parallel to the top tube of the bike. Knees are bent and ready to absorb bumps or extend to pump or reset. Remind riders that most of the bike's suspension is in their arms and legs. • “Rider looks as far down the trail as possible.” • “Keep tires rolling. Speed is your friend.” • “Look ahead. Get Low. Let it Roll.”	Demonstration Plan: • An athlete from the group (ideally moderate skill level) demonstrates each body position. ○ Neutral position ○ Ready position • All riders mimic the model's technique as best they can. • The skill is then broken down into teachable steps. ○ Foot position ○ Head position ○ Body position ○ Elbow/Wrist position ○ Weight distribution ○ Seated or Standing technique

Progressions: • Practicing optimal body position on various surfaces (ex. grass, gravel, dirt, sand) • Practicing optimal body position on trails that encourage riders to quickly adapt to changes • Stair cases or small rock rolls are incorporated into the skill when the rider is ready.	Activity Plan for Group: • A “simon says” style game where instructions alternate between “Neutral”, “READY”, “Neutral standing”, “Neutral seated”, “READY” • In an open field, create an obstacle course using pylons, pool noodles, water bottles, small curbs, steps etc. Have riders do multiple repeats of this circuit with an emphasis on optimal body position. • On a XC safe loop of 200-400m, cyclists do repeated laps with an emphasis on optimal body position. Coach provides video feedback.
Errors and Corrections: • (E) Weight too far back, behind saddle. When rider is in ready position. (C) Coach asks athlete to keep weight centered and low. Weight is shifted behind the saddle only in extreme situations. Weight too far back compromises steering. It also compromises the stopping power of the front brake. (E) Rider's weight is too far forward in ready position. (C) (C) Coach asks athlete to keep weight centered and low. Chin behind handlebars.	Observation Plan: • Coach stands to the side of the rider who is executing the skill. • Coach watches for smooth transitions between neutral and ready position. • Coach asks athletes to alternate between seated and standing neutral position. • Coaches watches to make sure that steering and control are maintained. • Coach videos is possible to provide some feedback during the session.
Summary/Wrap-up: Body position is key to safety and effective bike handling. Good body position allows the bike to flow over the train beneath you. Good body position means you're ready for anything.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: MTB Skill/Tactic: **Braking**

Describe the skill/tactic: Learning to apply the brakes effectively to maximize bike handling in technical terrain. A rider demonstrates the skill of effective braking before the skill is broken down into teachable movements. Start with the end in mind.	Set-up and Equipment: Cyclist mounted on bicycle; large open area (grass field).
Teaching Points: • Braking is an essential skill in MTB. • Body position/Ready position must be maintained throughout this progression. • Riders ride slowly in a straight line on grass and gently apply rear brake only to learn about the power and effect of this brake on bike handling. • Riders ride slowly in a straight line on grass and gently apply front brake only to learn about the power and effect of this brake on handling. Coach reminds athlete they may wish to shift weight back slightly back in order to maintain control on this one. • Riders ride slowly in a straight line on grass and gently apply both front and rear brake at same time to learn about the effect this has on bike handling. Keep weight over center of bike if possible. Maintain Ready position. • Remind cyclists to follow IMBA trail guidelines – leaving no trace on trails. Skidding while braking can be a major cause of damage to trails. We want to maintain control and avoid skidding.	Demonstration Plan: • Coach observes the riders while standing at the side of the braking zone. • Cyclist rides in a straight line • Cyclist applies braking as described in teaching point sequence. • Ask cyclist what they noticed about the bike's handling/behavior? How was it different from the other brake? • Ask the rider which brake has more power? Front or rear? • What happens to the rider's steering ability when you only use front brake? • What method stops you the fastest? • What method allows you to have the most control? NOTE: We want to teach confidence using both brakes appropriately with good body position for maximum stopping power. Start with very slow speeds and very gradual braking for new riders. Safety first.
Progressions: • Braking and cornering linked together. • Remind riders to do most of their braking before the corner. Feather rear brake in corner only if necessary. Cover front brake with fingers but remember that too much front brake leads to less steering control. • Braking with multiple changes of direction • Games designed to practice braking skills ex. "Simon says STOP!, Simon says GO!" • Taking it to the trail on a closed loop.	Activity Plan for Group: • In an open field, create wide and gentle corners using pylons. Ask riders to practice braking technique at varying speeds of approach. • In an open field, create tight slalom courses that require riders to use braking techniques in order to maintain control and stay on course. • Games: Who can stop the quickest without skidding? Who can ride the slalom course the fastest? • On a XC safe loop of 200-400m, cyclists do repeated laps with an emphasis on braking skills. Coach provides video feedback.

Errors and Corrections: • (E) Not using front brake effectively (C) Go back to field and gently reintroduce front brake skills and both brake skills. Some riders learned to ride a bike and were told not to touch the front brake. This habit can be hard to break. • (E) Rider's weight being shifted forward during braking. (C) Remind rider to stay centred in Ready position or shift weight slightly back as needed to maintain optimal body position. Rider can try lowering heels toward ground to help brace against breaking force.	Observation Plan: • Coach stands to the side of the rider who is executing the skill. • Coach watches for correct body position when brakes are being applied. • Coaches watches to make sure that steering and control are maintained. • Coach videos is possible to provide some feedback during the session.
Summary/Wrap-up: Use the brakes effectively to help the cyclist navigate the trail more efficiently and safely. Remind riders that braking drills are something that must be practiced regularly. Maintaining optimal body position/Ready position is key to this skill. Too much front brake can compromise the bike's handling characteristics. The front brake is where most of the stopping power is. Use the front brake in combination with good body position and the rear brake for maximum stopping power. "The front brake is your friend." Reminder to leave no trace on the trail. Skidding damages the trail and usually leads to less control of the bike.	

BMX-specific Skills

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: BMX Skill/Tactic: **Standing (gate) start**

Describe the skill/tactic: The gate start is the initial starting motion in a BMX race. The skill is done from a standing loaded position. Tactically it is important to stay straight with body posture forward for best acceleration.	Set-up and Equipment: BMX bike, start gate, bike alignment centred in gate. Ability to balance with both hands on the bars and both feet on the pedals.
Teaching Points: 1. Pre load Position • Bike Straight • Pedal Height (align parallel to rear stay on frame) • Wrist Position (Perpendicular to the ground) • Foot position (between toes and mid foot) • Standing with elbows and knees slightly flexed 2. Load Position • Extend arms and legs and move hips behind seat • Point toes slightly downward 3. Snap Position • Point toes slightly downward • Hips and shoulders move towards the front of the bike with head looking forward • Hands release towards the hips as the wheel rises from the ground	Demonstration Plan: • Rider is situated on gate with participants watching from behind the rider (off bike is safe) • Use middle lane so others can get view of drive and non-drive side of the bike • Coach shows all key movements up until snap phase • Snap phase demonstrated by experienced rider (if available)
Progressions: • Begin with set up phase - Practice sitting standing - Practice using other lanes - Practice balancing with distractions, taking hands off and feet off etc. • Advance to pre-load/load phase - Balancing standing for long periods - Adjusting pedals while standing - Breathing and relaxing in standing position	Activity Plan for Group: • Explanation by coach while cyclists observe starts (use experienced cyclists to demonstrate). • Work in groups of 2 to give each rider several chances to try and also observe • Practice with one lane separation. Then progress to no lane separation
Errors and Corrections: • (E) Bike not aligned (C) Look at both front and rear wheel for alignment • (E) Not balancing in seated position (C) Is rider relaxed, looking forward, good pressure on hands and pedals	Observation Plan: • Rear observation for alignment, foot position and knee/elbow alignment • Side observation for elbow/knee flex, wrist, foot position and weight transfer
Summary/Wrap-up: The objective is to start as quickly and relaxed as possible. Fractions of a second are lost when the rider can't maintain a straight line during hard acceleration. Correct pedal position, good upper body strength and coordinated movement are essential for the fastest starts. Keep the front wheel low while creating forward momentum with good posture.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: BMX Skill/Tactic: **Cornering**

Describe the skill/tactic: Cornering is the ability to turn both left or right while keeping speed throughout the entrance, mid turn and exit of a corner. Tactically cornering has many options. There are 4 main lines in a turn: Low/Mid – Leaders Line Low/High – Passing line (Block Pass) High/Low – Outside to Inside line Rail – Mid/Mid (Big lead or TT line)	Set-up and Equipment: Practicing cornering on a flat surface will encourage good movement and body position. Using cones or markers to identify cornering locations. Chalk can be used to draw the required lines into and out of the turn. In a banked corner the coach needs to identify the surface. Dirt and paved turns have a much different feel and grip. Equipment placement needs to be considered based on speed and surface.
Teaching Points: Cornering Skills • Entry Speed – Modulate brakes and attention (Head and Eye position) • Looking at selected Line • Pedal Position – level for less aggressive line • Outside foot slightly down for Low/High pass • Added pressure to inside hand and shoulder to lean the bike rather than turning the wheel • Shift hips slightly towards outside of frame • Body centred to keep front and wheel traction	Observation Plan: There are 3 locations optimal for observation. Corner Entry - Observing from the last jump before the corner shows line entry, body position and brake application Inside the turn - Observing from inside the corner shows traction point, body position (centred position) and head/eye position Exit of turn – There are 2 locations to observe the exit from the turn 1) Outside of turn on exit 2) First jump after turn.
Progressions: • Adding speed to practice all 4 lines • Pairing up riders • Call out lines before entry – encourage quick thinking and line adjustments • Group turns – continue to add riders for changing environment	Demonstration Plan: • Lead demonstration by walking the bike through the tactical lines • Rider demonstration should be done at slow speed to show body position • Coaches observe from all 3 locations during demonstration
Errors and Corrections: (E) Speed to fast or to slow (C) Demonstrate entry speed by modulation of braking (E) Rider isn't leaning/adding weight into turn (C) encourage hand and shoulder weighting (E) Rider cannot maintain line (C) Check head and eye position and commitment of traction	Activity Plan for Group: • Coach observes participants from all 3 locations • Riders attempt cornering starting with slow speed and increasing speed • Increase riders on track to demonstrate multiple lines and decision making
Summary/Wrap-up: Cornering is only about 10% of the entire BMX race but offers the biggest opportunities for passing on the track. Cornering technique should be practiced on flat pedals to encourage solid body position and movement and weight transfer to find optimal traction.	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: BMX

Skill: **Pumping**

Describe the skill/tactic: Pumping is the skill of gaining speed without pedalling. The rider produces momentum by weighting and unweighting the bike using body weight and rhythm.	Set-up and Equipment: Pumping can be done on any surface but for most effective movement and positioning a jump or roller should be used for analysis. Pumping should be practiced at low speed in the ready position with a focus on pedal level approach,
Teaching Points: 1. Ready Position (Approach and pull/unweight) • Bike Straight • Pedal Height (align parallel to rear stay on frame) • Wrist Position (Perpendicular to the ground) • Standing with elbows and knees slightly flexed • Unweight upper body and move slightly away from the bars (slight pull on front end) 2. Push/Weight phase • Apply pressure to bike (Upper and Lower body and push bike slightly forward) (Key to apply more pressure to lower body on the push – 70% lower to 30% upper is recommended).	Observation Plan: 3 Locations for Observations – Side Observation, Front Observation and Rear Observation Side Observation shows bend in the elbows and knees, wrist position on pull/push and foot angle on push Front Observation shows head and eye position, alignment of body on the bike Rear position shows alignment of elbows and legs on the push phase
Progressions: • Larger obstacles can create change in pull/push timing and speed • Lower/Higher speed changes timing and reaction • Opposite pedal forward will change balance position and is challenging • Multiple obstacles in succession ie rhythm section, rollers	Demonstration Plan: • Rider demonstrating should be comfortable and able to complete pumping at slow speed with ability to accentuate movement • Side view for coaches/riders to see weighting/unweighting phase of the pull/push • Demonstrate progression to multiple rollers/jumps to show momentum and efficiency of speed acceleration without pedals
Errors and Corrections (E) Speed too fast or slow (C) Demonstrate entry speed by modulation of braking (E) Rider is unweighting/weighting at incorrect times (C) Mark out location of push/pull with object i.e. tape, marker, chalk etc. (E) Rider cannot maintain momentum (C) Help identify effort in push/pull movement i.e. intensity	Activity Plan for Group: • Coach observes participants from all 3 locations • Riders attempt pumping starting with slow speed and increasing speed with efficiency • Riders who need progression can try same obstacle with increased speed and change of pedals.
Summary/Wrap-up: Pumping efficiently should look very fluid and speed should be gained without pedalling. Once riders can produce speed through unweighting and weighting the bicycle then they should be encouraged to use pumping in other areas of the track including the start hill and corners.	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: BMX

Skill: **Jumping**

Describe the skill: Jumping is the ability to clear a jump from lip (takeoff) to landing (transition). Both wheels will be off the ground with the body in a centred position. There are 3 phases to the jump. Pre load position (entry to lip), take off position (take off and mid jump) and landing.	Set-up and Equipment: To begin a rider must have ability to bunnyhop on flat ground before the skill of jumping is executed. Equipment needed is a jump or ramp with a lip and a landing. Ideally flat pedals to begin to encourage the body moment and correct execution of both wheels coming off the ground.
Teaching Points: 1. Pre Load (Before Lip) • Body slightly forward and compressed (Slight weighting of the bike) • Head up to spot lip 2. Take off • Lift bike evenly with a slight unweighting off the lip • Weight shift to centre of the bike/head up to spot landing 3. Landing/Transition • Both wheels land together • Elbows and knees slightly bent to absorb landing • Push bike forward to get pump on landing (transition speed)	Observation Plan: Coaches should observe jumping from a side view. A side view allows for coach observation of body compression and bike weighting, wheels leaving the ground on take-off and both wheels landing together on the transition.
Progressions: • Decreasing speed to encourage increased pop off the lip • Add object in middle of jump to increase effort i.e. cones, foam, hose etc. • Increase jump length with different speeds	Demonstration Plan: • Start with explanation and demonstration of bunnyhop • Start with tabletop jump to show movement then progress to gap jump i.e. double/step • Coaches stand at the side of the jump to watch demonstration
Errors and Corrections: (E) No compression on pre load (C) Accentuate motion by using bunnyhop with flat pedals (E) Rear wheel doesn't leave the ground (C) Encourage unweighting of the bike and knees stay flexed in the air (E) Back wheel landing first (C) Make sure rider is centred on the bike and shoulders are slightly forwards on the landing	Activity Plan for Group: • Coach observes participants from all 3 locations • Riders attempt cornering starting with slow speed and increasing speed
Summary/Wrap-up: The objective is to get both wheels off the ground, and land both wheels on the landing at the same time to increase control and transition speed. Continuing to work on basic bunnyhopping will only enhance jumping height and air awareness.	

Cycling Skill Planner

Use this sheet to plan a skill development session.

Discipline: BMX

Skill: **Manualling**

Describe the skill: Manualling is used when a rider is going too fast to pump and jumping is a slower option. Manualling is a skill that requires the back wheel to remain on the ground throughout the entire jump. The front wheel leaves the ground at the lip of the jump and returns to the ground on the landing.	Set-up and Equipment: Before a rider manuals on a jump they should be competent manualling on flat ground on flat pedals. Use a flat surface that is free of obstacles for safety reasons. Riders should start with a table top jump and transition to more difficult manuals like doubles and triples.
Teaching Points: 1. Lip Movement (Take off) • Legs extended and hips slightly back with weight on feet to keep the back wheel on the ground • Shoulders slightly forward and head and eyes focussed on the landing 2. Critical Instant (Mid Jump) • Continue to extend legs to balance the bike • Keep hands steady to keep the wheel up but don't pull so wheel is too high • Head and eyes targeted on landing 3. Landing • Push hands down and lower front wheel • Extend arms and push the transition	Observation Plan: Coaches should observe manualling from a side view. A side view allows for coach observation of body compression and bike weighting, front wheel leaving the ground and back wheel staying glued to the ground. Coaches can observe balance point for a rider and gauge how far back they need to be to control the manual.
Progressions: • Increase pitch on flat ground manuals i.e. slight downhill/slight uphill and turning • Add more obstacles i.e. double/triple/quad • Introduce rhythm section for multiple options • Transition to clip pedals once comfortable • Progress to pull manuals once execution is fundamentally sound	Demonstration Plan: • Start with explanation of manuals and flat ground manual demonstration • Groups of 2 to demonstrate and execute • In groups look at partner in a few observation points i.e. front/side and rear
Errors and Corrections: (E) Front wheel doesn't come off the ground (C) Look at weighting of the rear of the bike and extension of the legs (E) Rear wheel doesn't stay on the ground (C) legs not extended and hips back (E) Front wheel doesn't make the landing (C) Too much pressure on hands and head dropped mid manual	Activity Plan for Group: • Starting with flat ground manuals • Transition to manuals on the track ie tabletops and doubles • Increase/Decrease speed to change difficulty
Summary/Wrap-up: Manualling is a skill that should be used when speed is too fast to pump and a full jump will be too slow. As a rider becomes more proficient the rider should be encouraged to enhance the movement to gain speed and accelerate through the middle of a jump. Manuals are also used more on windy race days and slower conditions i.e. rain and soft track.	

Track-specific Skills

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Standing start**

Describe the skill/tactic: Start quickly and smoothly from a standing, held position.	Set-up and Equipment: Cyclist mounted on bicycle; holder (a coach, assistant or starting block).
Teaching Points: • Pedal of stronger leg is raised with crank angle about 45 degrees to ground. Hands on handlebar “drops”. Seated on saddle. • On starter’s signal, stand on pedals (i.e. “ready” position) and apply force to raised pedal. • Accelerate hard by pushing/pulling pedals; use hands/arms to counteract pedal force (i.e. push/pull with hands, opposing pedalling). • Allow bicycle to “rock” laterally while keeping wheels straight. Maintain a straight path. • Remain out of saddle, accelerate to desired speed, and then return to seated pedalling.	Demonstration Plan: • Cyclists stand on blue band (cote d’azur) and observe start from side, noting crank position and body movements at start. • Cyclists stand behind start and observe for lateral movement of bicycle and starting in straight line.
Progressions: • Begin with less aggressive acceleration, then work to maximum acceleration. • Start on a velodrome line and attempt to remain on line with minimal weaving from start until return to seated pedalling (1/2 lap). • Move from starting block to hand-held start to feel both situations. • “Races” with 2 or 3 cyclists starting side by side; race ½ lap while attempting to maintain straight path.	Activity Plan for Group: • Explanation by coach while cyclists observe starts (use an assistant to hold, and experienced cyclist to demonstrate). • If facilities and assistants permit, divide into two groups and hold starts on each side of track from pursuit start lines. • Work in small groups of 2-3 to give each rider several trials.
Errors and Corrections: • (E) Crank in wrong position; (C) Ask rider to position lead pedal/crank for next start. • (E) Rider’s arms and upper body too rigid, not allowing lateral rocking during start, resulting in failure to maintain a straight line (C) May need to experiment with starts in parking lot or safe road to learn proper coordinated arm and leg movement and degree of “rock”.	Observation Plan: • If coach is holding the rider, ask them to position the crank prior to mounting the bike. • On start signal, observe from rear for lateral bike movement, riding in straight line and intensity of effort.
Summary/Wrap-up: The objective is to start as quickly and smoothly as possible. Fractions of a second are lost when the rider can’t maintain a straight line during hard acceleration. Correct pedal position, good upper body strength and coordinated movement are essential to make the fastest starts.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Pedaling at high rates (r.p.m.)**

Describe the skill/tactic: Ability to pedal at high rates, from 120 to 160 revolutions per minute (rpm) or greater, while maintaining smooth form and riding in a straight line.	Set-up and Equipment: Track bicycle and selection of gears. Rollers. Ensure rider's position on the bicycle is correct.
Teaching Points: • Look for a tendency to over-gear and work to correct it by first working to maintain the same speed in lower (easier) gears, and then after several months, to maintain the same pedalling rate in a higher (harder) gear. • Relax the upper body, especially the shoulders, arms and hands. • The skill is developed with repetition and practice rather than concentration. Learning to relax the upper body and "let the legs spin" is a key.	Demonstration Plan: Have cyclists watch an accomplished rider on rollers, pedalling at up to 160 rpm. Point out smooth technique and maintenance of a straight line.
Progressions: • This skill requires extensive practice over months and years. • Hold "fast pedalling races" among 2 to 4 riders, by reducing the gearing for all riders. • Determine the rider's best flying lap time, then change to an easier gear (reduce 1 tooth on chain ring) and repeat, trying to maintain the same time. • When the rider is comfortable on rollers (not a fixed trainer), these are an excellent tool for developing fast pedalling rates. Experiment with "spin sprints" and work to maintain smoothness by relaxing non-pedalling muscles.	Activity Plan for Group: • This skill is practiced continuously on the track, rather than as a set activity. • Include some of the activities found under "Progressions" as fun activities during track training days. • Note the difference that occurs if the riders try "spinning" when fatigued (end of workout) vs. when fresh (earlier in workout). Beginners should work on form when fresh, more advanced riders can work on form when fresh and when more fatigued.
Errors and Corrections: • (E) Tension in upper body resulting in poor technique e.g. cannot maintain straight line, or "bouncing" when riding at high rpm. (C) Experiment with selectively relaxing upper body, beginning with hands (open and/or wiggle fingers while riding).	Observation Plan: • Watch riders pass from track side- look for "bouncing" or inability to ride straight lines.
Summary/Wrap-up: Learning to "spin" at high rpm allows a rider to use (or respond to) a wider range of speeds, while reducing load on the pedalling muscles. At first this is less efficient but as the rider adapts to high rpm pedalling, it eventually becomes more efficient. Ability to "spin" is essential to success in many track events.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Smooth riding on a line**

Describe the skill/tactic: Ability to ride in a straight line without wavering, while pedalling at high rates from 120 to 160 rpm. This skill is related to high rpm pedalling (see above).	Set-up and Equipment: Track bicycle and selection of gears. Rollers.
Teaching Points: • Relax the upper body, especially the shoulders, arms and hands. • When trying to stay on a painted line, look about 3 to 5 m ahead rather than down at the line (keep head up). • When transitioning into and out of the bankings, the rider has to steer slightly by leaning (not with the handlebars) to stay on the line. • Learn to relax the upper body and “let the legs spin”.	Demonstration Plan: Have cyclists watch an accomplished rider on rollers, pedalling at up to 160 rpm. Point out smooth technique and maintenance of a straight line.
Progressions: • This skill requires extensive practice over months and years. • Try holding different lines, (e.g. sprinters line, stayers line) to see how the track differs at different points. • Try flying laps riding on the sprinters line. • When the rider is comfortable on rollers (not a fixed trainer), these are excellent for developing smooth straight riding. Try setting up a mirror so the rider can assess their smoothness. Work to maintain smoothness by relaxing non-pedalling muscles.	Activity Plan for Group: • This skill is practiced continuously on the track, rather than as a set activity. • Include some of the activities found under “Progressions” as fun activities during track training days. • Note the difference that occurs if the riders are fatigued (end of workout) vs. when fresh (earlier in workout). Beginners should work on form when fresh, more advanced riders can work on form when fresh and when more fatigued.
Errors and Corrections: • (E) Tension in upper body resulting in poor technique e.g. cannot maintain straight line, or “bouncing” when riding at high rpm. (C) Experiment with selectively relaxing upper body, beginning with hands (open and/or wiggle fingers while riding).	Observation Plan: • Watch riders pass from track side- look for inability to ride straight lines.
Summary/Wrap-up: Ability to ride a smooth straight line is important for both safety and efficiency. Energy is wasted when wavering. This is something to work on every time you are on the track.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Using the banking for positioning**

Describe the skill/tactic: Riding up the banking slows you down, dropping down the banking speeds you up. Therefore riders can use the banking to change position relative to other riders. This requires timing and skill to remain safe and avoid crashes.	Set-up and Equipment: Track bicycle. Clear track- no other riders on the track.
Teaching Points: • Ride a steady speed on the track. While maintaining the same cadence, try climbing toward the top of the banking. What is the effect? Try dropping down smoothly. Effect? • Have a skilled rider lead a lap while the learner follows. Do one lap following the sprinters line. On the next lap have the learner experiment by climbing/descending the banking. How does this affect position relative to the leader? • Try climbing the banking early, at the transition. Try in the middle of the banking. Differences?	Demonstration Plan: Use two skilled riders to demonstrate the skill. Have the group observe from the infield at one banking while the coach provides commentary.
Progressions: • Perform the skill at increasing speed. • Move to changing the lead as the next skill (see next sheet). • When riders can change the lead on the banking, move toward changing position in a pack of 4 or 5 riders, as in a points or elimination race.	Activity Plan for Group: • Initially send pairs of riders- a more experienced rider leading a learner. Space the pairs about 5 seconds apart. • When learners can use the full banking (e.g. climbing to top) increase speed of the pairs. • Move to the “changing the lead” skill next.
Errors and Corrections: • (E) Rider mistimes return to leader’s wheel and has to accelerate or brake. (C) Correct by going higher or lower up banking on next attempt.	Observation Plan: Stand in infield close to exit of one banking so riders can hear your comments as they pass.
Summary/Wrap-up: This is a fundamental skill in many races: sprint, team pursuit, scratch and elimination, etc. It also varies from track to track as every banking is different. Riders should spend time practicing this skill as they become familiar with each new track.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Changing the lead team pursuit-style**

Describe the skill/tactic: <i>(This skill builds on “using the banking for positioning”.)</i> Riding up the banking slows you down, dropping down the banking speeds you up. A leader swinging up the banking will lose speed and can re-join a line of riders at the rear. This requires timing and skill to remain safe and avoid crashes.	Set-up and Equipment: Track bicycle. Clear track- no other riders on the track.
Teaching Points: • Have a learning rider lead a lap while a skilled rider follows on his/her wheel. Have the learner experiment with changing the lead by climbing the banking. How does this affect position relative to the follower? • Start with changing the lead early, at the entrance to the transition.	Demonstration Plan: Use two skilled riders to demonstrate the skill. Have the group observe from the infield at one banking while the coach provides commentary.
Progressions: • Add riders: start with a pair, then 3, etc. • Perform the skill at increasing speed.	Activity Plan for Group: • Initially send pairs of riders- a more experienced rider following a learner. Space the pairs about 5 seconds apart. • When learners can use the full banking (e.g. climbing to top) increase speed of the pairs. • Move from pairs to threes, etc.
Errors and Corrections: • (E) Rider mis-times return to follower's wheel and has to accelerate or brake. (C) Correct by going higher or lower up banking on next attempt.	Observation Plan: Stand in infield close to exit of one banking so riders can hear your comments as they pass.
Summary/Wrap-up: This skill is the basis of changing the lead in team pursuit, but is also a fundamental skill in many races such as scratch and elimination, etc. It also varies from track to track as every banking is different. Riders should spend time practicing this skill as they become familiar with each new track.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Hard accelerations on the straights**

Describe the skill/tactic: All-out accelerations both seated and out-of-saddle on the straightaway sections of the track. <i>Riders should be comfortable riding out-of-the-saddle, ideally for a full lap including on the banking, before working on this skill.</i>	Set-up and Equipment: Track bicycle.
Teaching Points: • Begin with single riders spaced on the track. • Riders accelerate sitting in the saddle as they exit one banking, and ease their effort as they enter the next banking. • Focus on maintaining a straight line while accelerating.	Demonstration Plan: Use two experienced riders to demonstrate the skill, first seated then out of saddle. Have group observe from infield along one straightaway. Coach should point out how the demonstrators maintain a straight line while accelerating.
Progressions: • Single riders, move to accelerating out-of-saddle as they exit the banking. • Pairs of riders, doing seated, side-by-side sprints on the straightaways. • Pairs doing out-of-saddle sprints on straightaways. • Progress to next skill "using the banking to accelerate" (see next sheet).	Activity Plan for Group: • Begin with single riders spaced on the track. • Riders accelerate sitting in the saddle as they exit one banking, and ease their effort as they enter the next banking. Coach may use a whistle or shout "go" to initiate the efforts. • Unless some riders are having trouble with the skill it should be possible to work through seated and out-of-saddle acceleration in a single session, then call the riders in to pair them for the next progression.
Errors and Corrections: • (E) Rider lacks upper body strength or does not counteract leg force with arms while accelerating, resulting in poor acceleration. (C) Point out need to use both arms together in seated acceleration, and alternating arms in out-of-saddle acceleration. • (E) Rider does not maintain straight line while accelerating. (C) Rider should relax arms somewhat and keep head up; he/she may be pulling too hard on handlebars to counteract leg force.	Observation Plan: Stand in infield at trackside, about midway between the bankings.
Summary/Wrap-up: This is a fundamental skill for all track events, including the start of pursuit and 1000m/500m events. Smooth application of power will maximize acceleration while minimizing energy-wasting wavering and wobbling.	

Cycling Skill Planner

Use this sheet to plan a skill/tactic development session.

Discipline: Track Skill/Tactic: **Using the banking for accelerating**

Describe the skill/tactic: Use gravity to launch all-out accelerations both seated and out-of-saddle, by dropping down the banking. <i>Riders should be comfortable riding out-of-the-saddle, ideally for a full lap including on the banking, before working on this skill.</i>	Set-up and Equipment: Track bicycle.
Teaching Points: • Begin with single riders spaced on the track. • Riders enter the banking “high” and accelerate sitting in the saddle by dropping down at the mid-point of the banking. Start at the stayers line and go higher as riders gain confidence. • Sprint along the sprinters line, then ease effort and swing up as they enter the next banking. Repeat. • Focus on managing a smooth transition to the straightaway in order to maintain a straight line while sprinting.	Demonstration Plan: Use an experienced rider to demonstrate the skill, first seated then out of saddle. Have group observe from infield along one straightaway. Coach should point out how the demonstrators maintain a straight line while accelerating.
Progressions: • Single riders, move to accelerating out-of-saddle as they drop down the banking. • Pairs of riders, doing seated, side-by-side “match sprints”. • Pairs doing out-of-saddle sprints.	Activity Plan for Group: • Begin with single riders spaced on the track. • Riders accelerate sitting in the saddle as they drop down from the mid-point of the banking, and ease their effort as they enter the next banking. Coach may use a whistle or shout “go” to initiate the efforts.
Errors and Corrections: • (E) Rider lacks upper body strength or does not counteract leg force with arms while accelerating, resulting in poor acceleration. (C) Point out need to use both arms together in seated acceleration, and alternating arms in out-of-saddle acceleration. • (E) Rider does not maintain straight line while accelerating. (C) Rider should relax arms somewhat and keep head up; he/she may be pulling too hard on handlebars to counteract leg force.	Observation Plan: Stand in infield at trackside, about midway between the bankings.
Summary/Wrap-up: This is an important skill for all track events, especially sprints and the start of flying laps. Smooth application of power will maximize acceleration while minimizing energy-wasting wavering and wobbling.	

Step 3: Leading a Practice Session

This step covers ways a coach supports an athlete in training, including techniques of leading a group practice or training session. The emphasis here is on practical ways to organize and lead practice sessions.

Planning for a Safe Practice

Leading a safe session means understanding and minimizing risk factors, and being prepared in case something does go wrong. Earlier in the workshop you identified some of the risk factors, including:

- Bicycles, equipment and clothing – proper fit and function
- Venue – appropriate conditions and level of difficulty for athlete
- Athletes – sufficient level of experience, control and attention
- Weather – manageable heat, cold, wind and precipitation.

As you lead your sessions, how can you ensure the risks are managed?

1. What parts of a bike do you need to be checked to be sure it is in safe working order? Do you have a bike-check routine or game you like to use?



p. [165](#) - 172

2. Review the sections titled *Heat and Humidity as Risk Factors* and *Cold as a Risk Factor* in the *Reference Material*. What are the specific risk implications for cycling in each of the following conditions? How will you help your athlete prepare?
 - a. Sunny, 32 degrees C, humid/low wind
 - b. Cloudy, 3 degrees C, 20 km/h wind
 - c. Rain, 7 degrees C, 20 km/h wind
3. What are some ways you can use your practice sessions to help cyclists learn about the need for proper equipment and clothing and how to maintain them? Work with another coach and brainstorm some ideas.

The Ride: Leading a Practice and Managing a Group

In coaching you need to consider the human factors- the fact that you will be working with a range of individual athletes who have different abilities, who learn differently, and who need to cooperate during training sessions so they can meet their own goals. This makes it important to consider how you will organize your sessions so they run effectively.

In the Skills and Tactics Workshop you have an opportunity to practice teaching skills, observing practice and providing effective feedback to learners. The purpose is to have you consider how to do this during a practice session in which you have a number of cyclists riding together on road, track or trail. How can you effectively lead practice sessions that help riders learn new skills? Here are two scenarios to consider:

Scenario 1: *Coach Sue is always well-organized, and she likes to plan her rides in advance. Today she is working with a group of 8 cross-country (MTB) cyclists who are from 12 to 16 years old. She wants to work on the skill of lifting the front wheel to climb an obstacle approximately 50 cm high.*

She has a spot on the trail in mind for this, an open area with a ditch which can be used to drop-off or ride up. At one end the drop-off is about 20 cm and at the other end, about 15 m away, it is about 1 m high. This provides a good range for her riders: they can start at a level they are comfortable with.

She explains and provides a demonstration, then has the riders all try the skill at the 20 cm (easy) end. They can all do it, some better than others. She stops the activity then asks each to try at the highest point they think they can ride up while she watches technique from the side. A couple of the riders over-estimate their skill and bail, but get it the second time. Most get it the first time. A few are cautious and still at the 20 cm area.

Now she divides them into groups: two riders are still trying at 20 cm, three at about 50 cm, and three at nearly 1 m. She walks back and forth giving specific feedback and soon, everyone can perform the skill consistently at 50 cm or higher. Everyone has improved, some a little, some a lot. Good work! She stops the wheel-lift practice and moves to the “fun” part of the session, a race on a 2 km loop of trail. This will provide a physical workout for the riders while letting them put their new skill into practice.

Scenario 2: *Coach Bob is running late. He is taking a group of 8 riders out on the road today. They are between 14 and 16 years old. By the time he gets to the meeting point they are all waiting for him.*

He wants to ride together for about 10 km as a warm-up, and then do a little handicap race on a 2 km circuit of quiet roads. The idea is to combine a

workout with practice in the skill of echelon or pace-line riding. He knows most of the riders can do that skill fairly well, although a couple are hesitant about riding close together and don't always stay with a faster group.

When they get to the practice loop he divides the riders into two teams of four riders and puts one less-skilled rider in each group. He instructs them to stay together making sure the less-skilled rider is not left behind. Then he starts the first group, and after one minute he starts the second group. He rides behind the second group to watch them perform the skill. He plans to move up to the first group and watch them a little later.

Problems occur right away in his second group. Two riders are too strong and ride too fast; there are two riders who can barely keep the pace. He shouts at the strong riders to slow down a bit and take shorter turns at the front. Then one of the less-skilled riders rotates the wrong way at the front, almost causing a crash. The rider is shouted at by everyone and immediately drops off the back.

After two laps Coach Bob's group has not caught the group ahead- he can't even see them. He stops his group and after a few minutes the other group comes up from behind. Together they all ride back to the starting area.

1. Use the following chart to list a few key things Coach Sue and Coach Bob did well, as well as any improvements they could make:

Things Coach Sue did well:	Things Coach Bob did well:
Things Coach Sue could improve:	Things Coach Bob could improve:

2. How did Coach Sue and Coach Bob deal with different learning styles (visual, auditory, kinesthetic) in their practice sessions? What could they have done differently?



3. With other coaches in your Workshop, brainstorm some tips for group management that you can use in your practices. For example, think of ways to share responsibility for leading sessions, ideas for a code of behaviour, and so on. You can record some of the best ideas here:

Communicating and interacting with participants



p. [173](#) - 177

4. The facilitator will present some information on effective communication and intervention (feedback) techniques. You can also take a moment to review the information on *Intervention Skills*, *Creating a Positive Learning Environment*, and *Communication Skills* in the *Reference Material*.

5. Review the copy of *Self-assessment Sheet #2* on page 64 in this *Workbook*. Will this information affect the way you present your information to athletes? Record any ideas on your Action Card.

Tip:

The words you choose and your non-verbal communication are key indicators to participants of what you think of them. Aim to speak positively and to be mindful of their feelings and self-esteem. Participants care a lot about what you think.

Be sure to always point out what they are doing well. Instead of leaving a lasting impression in their minds of what not to do, you will leave them with a lasting impression of what to do.

Modifying a practice plan

1. Take a look at the practice plan you created in Step 4 above.
2. Choose one of the situations below and describe how you would modify your plan for your situation. Make sure that your description is clear, so that an assistant would know what to do if you could not attend the practice (make diagrams if necessary).

Different Skill Levels

Some participants are at a more- or at a less-advanced skill level than the practice was designed for.

Arriving Late

Some participants arrive late for practice.

Bike Repair

One or more riders need bike repairs during the session and this uses up about one quarter of the total time available.

Modifications you would make:

3. Review your modifications with another coach in the workshop who has chosen a different situation. Does the other coach have any suggestions you could add to your ideas?

Eating and drinking during the session

Proper nutrition is important in any sport, and eating and drinking “on the go” can be a critical factor in endurance sports. Practice sessions are an ideal opportunity to work with cyclists on proper nutrition while cycling.



p. [178](#) -184

1. Proper nutrition and hydration during a ride is critical to safety and performance. Review the *Reference Material* “Food and Drink for Cyclists”. For the following scenarios, list the eating and drinking plan for your cyclist *during the riding or racing activity*:

- a. MTB cross-country ride, 1 hour long, 30 C
- b. Road time trial, 15 km long, 25 C
- c. Road ride, 2 ½ hours long, 15 C
- d. BMX moto (heat), 25 C

2. In some kinds of racing, there is too little time to need to eat or drink during the event heats, but competitors ride many heats in a day. What kind of nutrition planning is important over the whole day?

3. Do food/drink needs change with age/stage? How? What about the age of riders and use of caffeine or guarana, common additions to cycling or sport “gels” and drinks? Work with another coach and record your thoughts here:

Post-ride: maximizing the benefits

While skill acquisition happens during the activity itself, physical improvement happens afterward, in the recovery period. When the training session ends the coach can help the athlete maximize the benefits of the practice by ensuring adequate cool down and recovery to promote physical regeneration and holding a post-ride discussion with the athletes to promote learning. The coach can learn, too, by reviewing the practice session and considering how to improve it next time.

Cool down and recovery

The recovery and regeneration phase of the workout begins immediately after the end of the most intense physical activity. In other words, a cool-down ride at the end of the practice session is part of the rider's recovery.

The main components of post-ride recovery are:

- Cool-down period of reduced exercise intensity
- Post-ride nutrition.

These will be discussed in more detail in the *Training to Race* Workshop.

Post-ride discussion with the athletes

Unlike the period immediately following a race, when a coach often has to deal with the athlete's emotions related to their performance, the time immediately following a practice session is a more relaxed opportunity to talk about skills learned during the session. This can help to reinforce and consolidate skill learning.

Practice session review for the coach

What did you learn during the practice session? Was there a problem you faced, or an idea for a better way to do things that came to you?

1. What can you do to record or remember ideas that occurred during the practice? Jot a few ideas.
2. How can you evaluate the success of your practice sessions? Who can help you do this? Again, list a few ideas for getting

- a. Immediate feedback (right after the session). *How did today's session work?*
- b. Longer-term feedback (days and weeks after the session). *How are my practice sessions working, overall?*

Working with athletes with a disability

What are the implications of working with athletes with a disability (AWAD)?
Are there any differences?

Not every coach gets the chance to work with a cyclist with a disability. Some coaches do, and don't know it! There are many kinds of physical and intellectual disability, and some are almost invisible. Others are more obvious. But physical or intellectual disability does not stop cyclists from competing, and Canada's disabled cyclists have had many world-class performances.



p. [185](#)

1. The *Reference Material* selection titled “*Working with Athletes with a Disability*” provides information about how to make your program more attractive to AWAD. Pair up with another coach (or work as suggested by your Learning Facilitator) and list some of your concerns about working with an athlete with a disability in a practice session in your discipline or event.

2. Now work together to identify strategies to address these concerns. Your Learning Facilitator may make a presentation at this point, and you can refer again to *Working with Athletes with a Disability* as well as the LTAD framework in your *Reference Material*.

3. Where can you find some resources or experts to help you work with an athlete with a disability?

Cycling Skills and Tactics

Reference Material: Leading a Practice Session

Heat And Humidity As Risk Factors

The challenges of exercising in the heat: key points

- During exercise, the muscles produce heat. This heat must be dissipated, otherwise the body runs the risk of “overheating.” Overheating can result in serious, potentially life-threatening injuries.
- Sweating is one of the heat-dissipating mechanisms of the body. When sweat evaporates, it cools off the body.
- Most sport activities lead to heat production and sweating. Evaporation of sweat works best when the air is dry. In moist, damp air, sweat cannot evaporate easily and cooling off is more difficult.
- If the air temperature is high during vigorous activity, participants can lose a significant amount of water through sweating.
- High temperatures and high relative humidity make it hard for the body to dissipate heat; heavy sweating occurs, but the water lost does not help to cool off the body. Under these conditions, participants run the risk of overheating.
- Water lost as a result of heavy sweating can lead to dehydration. Dehydration can reduce performance, decrease the body’s ability to dissipate heat, and endanger health.
- During exercise in the heat, adequate hydration is a must. Participants must drink water whenever the risk of dehydration is present.
- Thirst is not a good indicator of a need for water. In fact, dehydration has already started if a participant feels thirsty.
- During most exercise conditions, the rate at which participants lose water exceeds the rate at which they can absorb it by drinking. This is accentuated during exercise in a hot environment. Therefore, participants need to drink fluids *before* they are thirsty.
- Children run a higher risk of overheating when exercising in the heat, because their sweating mechanism is not fully developed. In addition, children tend to not drink enough during exercise, in particular if the beverage is not flavoured.

The Humidex: A Guide To Assess The Risk Of Exercising In Hot And Humid Conditions

- The humidex describes how hot and humid weather feels to the average person. The humidex combines the temperature and humidity into one number to reflect the perceived temperature.
- Because it takes into account both heat and humidity, the humidex provides useful information about the risks of exercising in the heat.
- The table below shows the humidex value for various air temperatures and levels of relative humidity. For instance, if the air temperature is 25 C and the relative humidity is 70%, the humidex is 32 C. This means that the sensation of heat when it is 25 C and the relative humidity is 70% is about the same as when it is 32 C and the air is dry (20% relative humidity).

RELATIVE HUMIDITY (%)

T E M P E R A T U R E (C)	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
	20					20	20	21	22	22	23	24	24	25	25	26	27	27
	21					21	22	22	23	24	24	25	26	26	27	28	29	29
	22				22	22	23	24	25	25	26	27	27	28	29	30	30	31
	23				23	24	24	25	26	27	28	28	29	30	31	31	32	33
	24				24	25	26	27	28	28	29	30	31	32	33	33	34	35
	25			25	26	26	27	28	29	30	31	32	33	33	34	35	36	37
	26			26	27	28	29	30	31	32	33	33	34	35	36	37	38	39
	27			27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
	28		28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
	29		29	30	31	32	33	35	36	37	38	39	40	41	42	43	45	46
	30		30	31	33	34	35	36	37	39	40	41	42	43	44	46	47	48
	31		32	33	34	35	37	38	39	40	42	43	44	45	47	48	49	50
	32	32	33	34	36	37	38	40	41	42	44	45	46	48	49	50	51	53
	33	33	34	36	37	39	40	41	43	44	46	47	48	50	51	53	54	55
	34	34	36	37	39	40	42	43	45	46	48	49	51	52	53	55	56	58
	35	36	37	39	40	42	43	45	47	48	50	51	53	54	56	57	59	
	36	37	39	40	42	44	45	47	49	50	52	53	55	57	58	60		
	37	37	38	40	42	44	45	47	49	51	52	54	56	58	59			
	38	38	40	42	43	45	47	49	51	53	54	56	58	60				
	39	39	41	43	45	47	49	51	53	55	57	59						
	40	41	43	45	47	49	51	53	55	57	59							

Range Of Humidex: Degree Of Discomfort And Risk Of Overheating in Exercise

The guidelines below are provided for a heat acclimated, well-hydrated person.

Humidex value	Discomfort at rest	Risk of overheating during exercise
Below 24 C	None	Low to moderate
25 to 29 C	None	Moderate
30 to 39 C	Some	High - Children should be monitored closely
40 to 45 C	Great	Very high - Exercise is not advised for children, older people, or individuals with a poor fitness level
Above 45 C	Great Risk of overheating even at rest	Extreme - Exercise is not advised for any participant

If the humidex is above 30 C, in particular if it exceeds 35 C:

- **Tell participants to bring extra water or sport drinks; ensure there will be access to water during the practice or the competition, and bring a big jug of fluids.**
- **Tell participants to dress in lightweight, light-coloured clothes.**
- **Plan for low-intensity activities.**
- **Plan for shorter work bouts, with frequent and longer pauses.**
- **Schedule practices early in the morning or during the evening; avoid the hours between 9 a.m. and 6 p.m.**
- **Consider changing the location of the practice to a shaded area, or ask participants to bring umbrellas to create shade during breaks.**
- **Consider exercising indoors, in a facility with air conditioning.**
- **Consider alternatives to physical exercise.**

Other Safety Measures To Avoid Heat Injuries

- Plan for participants to have enough time to get used to the environment they will face in competition. Insisting on heat acclimatization may mean not entering competitions if participants cannot train in a similar climate for approximately two weeks beforehand.
- In order to protect participants (in particular young children) against the potentially harmful effects of ultra violet (UV) rays, the following is recommended: they should wear a hat or a cap with a visor; clothes should cover the upper part of the body, the neck, the arms and the legs; sun screen lotion (protection factor of 30 or more) should be applied on the exposed skin, including the face and the hands. Participants should not expose their body to the sun without effective protection when the UV index is high.
- Before exercise, participants should drink 400 to 600 mL of fluid.
- During exercise, participants should drink 150 to 250 mL of fluid every 15 minutes. Remind participants to drink, lead by example, and never restrict them from drinking during a practice or a competition.
- After exercise, participants should rehydrate by drinking as much fluid as thirst dictates, and even force themselves to drink.
- Beverages should be cool (8 to 10 C) and not too sweet; children prefer flavoured sport drinks and these promote drinking.
- Tell the participants to bring a personal water bottle with cold fluids to each practice or competition; inform their parents about the importance of hydration; make sure each bottle is clean and well identified.
- Tell the participants to monitor their hydration level by checking their urine. If it is dark, there is not much of it, and it has a strong smell, the participants are most likely dehydrated and should force themselves to drink.

NB: Particular attention should be paid to these measures during the first few hot days of spring or summer, when participants are not yet acclimatized to hot and humid weather.



Cold As A Risk Factor

The challenges of exercising in the cold: key points

- The colder the environment, the faster a participant's body temperature will decrease.
- During exercise in a cold environment, the skin can become wet as a result of sweating, or exposure to rain or snow. A wet skin surface cools the body faster than when it is dry.
- Temperature may drop considerably once the sun has set, which can quickly increase the level of risk associated with exercising in a cold environment.
- The wind magnifies the perception of cold, and increases the rate at which the body loses heat. This effect can be further amplified if the skin is wet.
- In cold weather, high humidity makes the temperature feel colder than air temperature indicates it is.
- Cold, dry air makes it difficult to breathe for some asthmatics, although it is generally easier to tolerate the cold when the air is dry.
- Skin can freeze when exposed to very cold temperatures, and when this happens circulation slows. Tissue can be damaged if frostbite is prolonged and extensive. Extremities (e.g. toes, fingers, nose, ears) are particularly at risk in cold temperatures, because the body shunts blood flow to central organs and tissues to maintain the body's core temperature.
- In severe cold, brain function can slow down, and so risk of further injury in prolonged exposure increases.
- Children get cold much faster than adults, and their skin is more prone to freeze. People with less body fat usually have less tolerance for cold than those with more body fat.
- Muscles and other soft tissues that are cold are more susceptible to injuries such as pulls and tears, in particular if the efforts produced are sudden and intense.
- In very dry cold environments, water vapour lost through breathing and evaporation of sweat from exposed surfaces may lead to dehydration.
- Wearing appropriate clothing can be a challenge when exercising in the cold. Clothes must protect against the cold, but at the same time they must not impair the body's ability to get rid of the heat produced during exercise. Heavy clothing can be cumbersome and interfere with movement; it can also increase air resistance in some sports where speed is critical. On the other hand, the thin clothing used in many sports often offers little protection from the cold and the wind.

- The type of fabric worn can either wick water from the body surface (i.e. synthetics such as polypropylene or Gore-Tex ®) which results in less risk of heat loss, or trap it there (i.e. cotton or nylon) which results in greater risk of heat loss.

Safety Measures To Avoid Cold Injuries

When exercising in the cold:

- Ensure participants wear sufficient clothing for the conditions, and layer clothing as follows:

Layer closest to skin:	Polypropylene, close fitting (wicking effect)
Second layer:	Fleece or wool, slight room between first layer and second layer for “trapped air” effect
Third layer:	Wind-breaking, water repellent, breathable layer

- When it is very cold, ensure exposed surfaces are kept to a minimum.
- Once the body has warmed up, and if the temperature is not too cold, consider removal of the second layer of clothes during exercise to avoid excessive sweating. Have participants add a layer or use blankets to keep warm during breaks or pauses.
- Apply anti-perspirant on feet before exercising to lessen sweating of the feet (which is usually followed by cooling of the feet). Doing the same on the palm of the hands may reduce the feeling of cold for people who tend to sweat a lot in their gloves or mitts.
- Ensure participants hydrate when they exercise in the cold.
- Bring children inside when they say they are cold; it is not worth the risk to prolong exercise and have them suffer from frostbite. Once a person suffers serious frostbite, the risk of subsequent frostbites to the same area may be increased.
- Never send participants out into the cold alone or without means of communicating with you and/or an emergency centre; avoid prolonged activities in which participants are in isolated areas and run the risk of becoming exhausted.
- When the weather is very cold and participants must train outdoors, hold your practices between 11 a.m. and 2 p.m. as these tend to be the warmest hours of the day. Be aware that temperature drops quickly when the sun sets.
- Inform participants and their parents to consider the combined effect of cold and wind (i.e. the wind chill factor, see next section) when making decisions about



how to dress rather than simply looking at the thermometer. Do the same when you make coaching decisions about the choice and the scheduling of activities.

- If possible, choose areas that are protected from the wind; avoid activities in open areas.
- Ensure protective eyewear is worn to prevent snow reflection from damaging eyes, and protect from the cold and the wind.
- Have participants or their parents bring a change of clothing, especially socks and underwear. Try to find a warm and protected spot to change.
- Inform participants and parents that a hat should be worn at all times; over 30% of body heat may be lost through the head. Ensure ears are covered to avoid frostbite.
- Allow additional time for warming up for training and competition; it takes longer to get the body warmed up and ready for sport in cold weather than it does in warm weather.

Wind chill factor

At certain temperatures, wind may greatly increase the perception of cold. The wind chill factor is an index that combines air temperature and wind velocity. It measures the rate at which living creatures lose body heat to the environment. The wind chill is not a temperature in the strict sense, but a temperature-like number that quantifies the sensation of cold. The wind chill factor should be consulted prior to exercising in the cold, as it provides more useful information regarding the best way to dress than temperature alone.

The table below show the equivalent temperature (C) felt by the human body as a result of the combined effects of ambient temperature and wind velocity. At a temperature of – 20 C, a 20 km/h wind will result in a cold sensation equivalent to –30 C.

		WIND VELOCITY (km/h)															
T E M P E R A T U R E (C)		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
	5	4	3	2	1	1	0	0	-1	-1	-1	-2	-2	-2	-2	-3	-3
	0	-2	-3	-4	-5	-6	-6	-7	-7	-8	-8	-8	-9	-9	-9	-10	-10
	-5	-7	-9	-11	-12	-12	-13	-14	-14	-15	-15	-15	-16	-16	-16	-17	-17
	-10	-13	-15	-17	-18	-19	-20	-20	-21	-21	-22	-22	-23	-23	-23	-24	-24
	-15	-19	-21	-23	-24	-25	-26	-27	-27	-28	-29	-29	-30	-30	-30	-31	-31
	-20	-24	-27	-29	-30	-32	-33	-33	-34	-35	-35	-36	-36	-37	-37	-38	-38
	-25	-30	-33	-35	-37	-38	-39	-40	-41	-42	-42	-43	-43	-44	-44	-45	-45
	-30	-36	-39	-41	-43	-44	-46	-47	-48	-48	-49	-50	-50	-51	-51	-52	-52
	-35	-41	-45	-48	-49	-51	-52	-53	-54	-55	-56	-57	-57	-58	-58	-59	-60
	-40	-47	-51	-54	-56	-57	-59	-60	-61	-62	-63	-63	-64	-65	-65	-66	-67
	-45	-53	-57	-60	-62	-64	-65	-66	-68	-69	-69	-70	-71	-72	-72	-73	-74
	-50	-58	-63	-66	-68	-70	-72	-73	-74	-75	-76	-77	-78	-79	-80	-80	-81

The table below shows how quickly frostbite can occur in adults when skin is suddenly exposed to a cold environment. Times would be shorter for children, or if skin temperature upon exposure is cooler than it normally is at room temperature.

Wind chill factor	Frostbite can occur in:
-25	45 minutes
-35	10 minutes
-60	2 minutes

[Return to Workbook, p 155](#)

Intervention Skills

The most important intervention skills recognized by the majority of researchers are:

Planning

1. The content of the session must have some relation to the overall program.
2. The coach must know his/her stuff.
3. The objectives of the practice must be clearly defined.
4. The key elements of the practice and criteria for success must be clearly defined.
5. Exercises must be varied and progressive.
6. Exercises must be adapted to the level of the athletes.

Organization

1. Ensure there is enough appropriate equipment.
2. Choose the right formation for explanations and demonstrations.
3. Be stimulating and lively (have fun!).
4. Be sure that the practice area is safe throughout the session.

Giving information

1. Explanations must be brief and clear.
2. Explanations must be complete (organization of the group, how the practice will go, the duration of the practice, etc.).
3. The context must be appropriate (quiet, respectful: the learner must be paying attention in order to learn, but must also be open to receiving and assimilating the explanation being given).
4. The coach must be in the right position during the explanation, i.e. in front of the group; the participants/athletes may be standing or sitting in a semi-circle in front of the coach.
5. The words used must be correct and adapted to meet the needs of the targeted group (don't use words or terminology that only you know).
6. Delivery must be controlled: speak slowly, loud enough and with enthusiasm; ask the participants/athletes if your voice carries well enough.
7. Demonstrations serve above all to create a mental picture of the movement. Obviously, this picture must be as accurate as possible, as it is the basis of all learning. A good demonstration has the following characteristics: the movement is well-executed, the timing is right, the demonstration is carried out in the right place, and everyone can see it.
8. Give clear instructions such as: "Make as many passes as possible in the time given, and keep moving!"
9. Ask questions to check whether your instructions have been understood, for example, "What must you do during this drill?"
10. Check that the participants/athletes have understood the object of the exercise before letting them go back into a game situation.

Managing the group

1. Ensure that the participants are aware of the rules to follow and the code of conduct.
2. Be sure to inform the participants/athletes of the rules, and of the consequences of not following them; the consequences must be reasonable and take into account the age of the participants/athletes, and the nature of the infraction.
3. Watch out for signs of indiscipline, and react quickly and appropriately to this kind of behaviour.
4. Apply the rules and impose the appropriate penalty for breaking the rules (which you have already established).
5. Adapt quickly to maintain control of the group at all times.

Observation

1. Pick your spot and move around to see all the participants/athletes. By maintaining good visual and auditory contact, it is possible to know what is really happening in the group. Constant scanning of the group is the basis for sound observation. Visual contact is the primary way of capturing attention. Although it is important to watch, you must also think about what is going on. You must learn to recognize signs of boredom, disagreement, tiredness, so that you can deal with them quickly.
2. You must learn to pick up indications or signs of sound execution – or the lack of it – and intervene quickly to correct the situation when you need to.
3. When you give feedback, remember the following criteria:
 - ⇒ Specific, not general
 - ⇒ Positive and constructive, not destructive or negative
 - ⇒ Focus on behaviour that can be improved
 - ⇒ Clear and informative
 - ⇒ Sandwich approach: positive comments on what the participant/athlete is doing well, things to work at, encouragement or some other positive aspect

Note: *Although feedback is important, don't overdo it, as it is important to allow participants/athletes to practice and perform without intervention or constant interruption.*

Conclusion

The competence of the coach can be assessed on the basis of the following criteria:

- ⇒ The ambiance created in the practice session
- ⇒ The amount of motor activity of the participants/athletes
- ⇒ The participants/athletes' learning

Creating a Positive Learning Environment: General Principles

1. Interact more with the participants/athletes who need it most

Feedback from the coach is intended to inform and encourage athletes who may have limited skills, and who, by definition, find it difficult to execute the skills correctly.

2. Ensure that participants/athletes are actively involved

Too long a time spent organizing the group and the equipment, and, similarly, long periods of inactivity during the practices may lead to loss of interest by the participants/athletes and lead to a lack of discipline.

3. Adapt the degree of difficulty of the practices to the abilities of the participants/athletes

Practices must involve tasks that create a degree of uncertainty in the participants/athletes, i.e. they must have the impression, but not be absolutely certain, that they are able to execute the task correctly. This kind of task presents them with an interesting challenge.

4. Define what successful performance looks like

Without clear objectives to achieve and when they do not know how they are doing, participants/athletes live in a climate of uncertainty and ambiguity which may promote dependency on the coach, or loss of interest in the activity.

5. Give specific and constructive feedback

Coaches must give specific information that will lead the participants/athletes to think. It is better to avoid sharp criticism, as it is well known that this can have a negative influence on learning and the development of the person.

6. Do not allow a few participants to monopolize attention

It is important to recognize that certain participants/athletes condition the coach to react the way they want, and end up expecting all the coach's attention. Add to this phenomenon the fact that every coach likes some participants/athletes more than others, and it is not surprising to discover that other people feel left out and badly treated when this occurs.

7. Improve the scope of feedback

When coaches give feedback to participants/athletes, they often use stereotypical messages, which often become repetitive and little more than habitual statements. Sometimes you need not give any feedback. The quality and credibility of the feedback are more important than the quantity.

Effective Communication

If the coach is to establish a good working relationship with the participants and other coaches involved in the project (at practice sessions, meetings, and at any other time), he/she must develop good communication skills. This section provides some practical suggestions for improving communication skills.

Effective Communication

Personal

1. Know yourself, both as a coach and as a person.
2. Know your preferred communication style (analytical, dynamic, pleasant, expressive), and choose the appropriate one(s) for your target group.
3. Be aware of the importance of the non-verbal aspects of communication: when you are a coach, people look at you! Participants and athletes notice your slightest movements and gestures. Non-verbal language represents around 80% of all communication. Your verbal language must not contradict your non-verbal language; rather, they should be complementary. For example, if you say: "Let's take the time we need to do this practice properly", but you are constantly looking at your watch, you are sending two contradictory messages.
4. Know how you react to typical situations you face in sport. For example, do you get stressed during competitions?
5. Create opportunities to listen to and communicate with other people.
6. Pay real attention to and take genuine interest in the person you are speaking to.
7. Accept the fact you will probably have to clarify and repeat whatever you say often during the season. You may have to say the same thing in several different ways and use different words before the message is truly understood and acted upon.
8. Show that you listen actively and ensure you understand the message you are receiving. Active listening suggests that you ask for clarification whenever necessary, and that, on occasions, you may repeat what you have heard to be sure that you have understood the other person, for example, "When you said....., did you mean.....or..... ?" or "If I understand what you said, now you are going to.....".

Effective Communication (cont'd)

Ambiance

1. Create a positive ambiance based on confidence, be patient, tolerant, and show empathy towards others.
2. Create a positive environment for communication (appropriate location, absence of noise, discreet, etc.). If it's not possible to spend time with the other person, make an appointment with him/her for another time, for example, after practice.

Interpersonal

1. Respect the differences and particularities of every individual.
2. Be open with other people, right from the beginning of the relationship.
3. Clearly identify expectations in front of participants and athletes.
4. Describe how you meet these expectations.
5. Describe the attitudes and behaviours you expect to see (a code of behaviour).
6. Communicate a coherent and relevant message to the members of your target group, in terms that they understand.
7. Don't talk too long to the group (before or after the meeting) or in an individual meeting, especially if it is with a young person; be brief and specific.

[Return to Workbook, p. 158](#)

Cycling Hydration and Nutrition

1. Hydration

1.1 Importance of Fluids

Proper hydration is important for all athletes in order to:

- (1) replace water lost as a result of sweating
- (2) avoid marked decreases in performance that result from dehydration
- (3) help maintain core body temperature within acceptable limits during exercise.

1.2 Effects of Dehydration on Performance

Dehydration negatively affects performance and is associated with premature fatigue. This is particularly the case for prolonged aerobic exercises such as distance running or cycling, but athletes competing in team sports or events of short duration can also be affected by dehydration.

Ironically, dehydration reduces the capacity of the digestive system to absorb water. Athletes should not wait until they are dehydrated before they drink, as this slows rehydration and causes gastric cramping.

1.3 Feeling Thirsty and Dehydration Level

It is well established that the sensation of thirst is not a good indicator of an individual's level of dehydration. When thirst manifests itself, approximately 2% of body mass has already been lost. Consequently, one cannot gauge dehydration by referring to the sensation of thirst. Therefore during exercise, it is important to drink on a schedule rather than according to thirst.

If thirst were the only point of reference used for determining fluid needs following profuse sweating, re-establishing optimum hydration could take 24 to 48 hours.

1.4 Drinking Fluids Before Activity

Athletes should drink plenty of fluid every day, particularly before a practice session or competition. Athletes who are well hydrated have the following characteristics:

- (1) sweating begins sooner, and is more abundant
- (2) an enhanced rate of absorption of the fluids consumed during exercise.

In practical terms, this means drinking 1.5–2.5 cups (400–600 mL) of fluid 2 to 3 hours before exercise. This allows time for excess fluid to be excreted as urine before the exercise starts. To ensure complete hydration, consuming 0.5–1.5 cups (150–350 mL) of fluid about 15 minutes before exercise is recommended.

1.5 Drinking Fluids During Activity

Amount of fluids to drink

Athletes should drink enough fluid to maintain fluid balance throughout the exercise. The amount of fluid an individual can tolerate during exercise varies from one person to another, but usually ranges between 10 and 15 mL per kg of body weight per hour. In other words, as the following table suggests, a 60 kg person can absorb between 600 and 900 mL of fluid in an hour, and a 70 kg person between 700 and 1050 mL, etc.

Body weight (kg)	Approximate quantity of fluid absorbed by the body in one hour (mL)	
	from ...	to ...
30	300	450
40	400	600
50	500	750
60	600	900
70	700	1050
80	800	1200
90	900	1350

Rather than drinking large amounts of fluid at one go, it is better to drink 0.5–1.5 cups (150–350 mL) of fluid every 15 to 20 minutes, or as much as one can tolerate without feeling any discomfort.

Athletes rarely consume enough fluid to maximize the absorption capacity of the digestive system or to balance fluid losses. Increased fluid intake during exercise will improve fluid balance for most athletes.

Precautions

To encourage athletes to drink plenty of fluids, have them bring several bottles or containers of water or sport drinks. For reasons of good hygiene, do not allow them to share bottles or containers with other people.

Sport Drinks

Sport drinks containing carbohydrate are recommended for activities lasting more than 60 minutes without interruption. Several studies suggest an improvement in performance as a result of drinking sport drinks, which promote optimal performance by providing both fluids and carbohydrates. When exercise lasts less than one hour, consuming a sport drink will probably not improve performance significantly. In this circumstance, drinking water should be adequate unless it is hot and humid, in which case a sport drink is recommended.

Strategy for Encouraging Hydration in Children

Recent studies show that children's consumption of fluids is increased when drinks contain carbohydrates (40–80 grams per litre) and a little sodium. It is suggested that the coach encourage this type of drink rather than plain water in order to ensure that children take in enough fluids when they exercise in hot weather.

1.6 Rehydration After Activity

After an exercise where sweating has been profuse, it is extremely important to replace fluid. This sensation of thirst is not a good gauge. Consequently, forced hydration is often necessary. It is possible to estimate how much fluid an individual has lost during exercise by weighing before and after the activity. The difference in kg represents the amount of fluid lost, in litres, since one litre of water weighs one kg. For each kg of body weight lost, at least 1.0 litre of fluid plus an extra 0.5 litre should be consumed. It is important to drink more than one litre per kg of body weight lost to account for urinary losses.

The color and amount of urine are an easy way for athletes to monitor their dehydration level. Scanty, dark urine signals a need for more fluid, in which case athletes should force themselves to drink more fluids. Plenty of clear-coloured urine usually indicates adequate hydration.

2. Strategies to Promote Recovery

2.1 Nutrition Between Competition

When there are two or more competitions on the same day, it is primarily the time available between periods of activity that will determine the quantity and type of food consumed. The principles described in this section, and also those contained in Section 2, should be respected.

In general terms, it is better to consume snacks high in carbohydrates between each competition and wait until the end of the day to consume a more substantial meal. It is also important to ensure that athletes consume enough fluid between each event.

2.2 Recommendations for Replenishing Reserves After Activity

For rapid recovery, it is important that athletes refuel immediately after a practice session or competition, especially if another physically demanding event or training session is scheduled the following day. Athletes should:

- (1) **Drink plenty of fluids:** at least 1.0 liter (4 cups) of fluid per kg of body weight lost during exercise, plus 500 mL is recommended. Refer to Section 3 “Rehydration after activity” for rehydration strategies. To rehydrate between competitions on the same day, follow the guidelines for hydration during activity.
- (2) **Consume carbohydrates soon after activity:** as soon as possible after exercise, preferably within 30 minutes, athletes should consume carbohydrate; this procedure should be repeated every 2 hours until the next meal. This allows muscle energy stores to be replenished at a faster rate than if the athlete waits until mealtime to consume carbohydrate-rich foods. Athletes usually find it easier to consume liquid carbohydrate (fruit juices, sweet drinks, etc.) rather than solid foods, since exercise dulls the appetite.

The following table shows the amount of carbohydrate to consume relative to body weight. Also provided are examples of foods providing approximately 50 grams of carbohydrate.

Body weight (kg)	Approximate quantity of carbohydrate to consume up to 30 minutes after activity and every two hours until the next meal-time
30	45 grams
40	60 grams
50	75 grams
60	90 grams
70	105 grams
80	120 grams
90	135 grams

Examples of foods containing approximately 50 grams of carbohydrate:

- 700 mL of sport drink
- 500 mL of fruit juice or soft drink
- 3 average size pieces of fruit
- a large “Mars” bar
- 3 “muesli” bars
- 2 pancakes with maple syrup
- 60 gram packet of jelly beans or jujubes

Examples of foods containing approximately 50 grams of carbohydrate and 10 **grams of protein**:

- 300 mL of cold milk
- 400 g of fruit yogourt
- bowl of cereal with milk
- 300 mL of liquid meal supplement
- 2 English muffins with peanut butter

- (3) **The meal after exercise should be high in carbohydrate, adequate in protein, and relatively low in fat.** Carbohydrate-rich foods should constitute the meals and snacks that follow an intense effort; to ensure carbohydrate stores in the muscles can be replenished quickly.
- (4) **Moderate amounts of salt and a few portions of salty foods should be consumed**, for example, tomato or vegetable juice, pretzels, canned soup or bouillon, pickles, ketchup, soy sauce, salsa, cheese, salted nuts.
- (5) **At least three portions of potassium-rich foods (vegetables and fruit) are recommended**, for example, vegetables, potatoes, fruit juices and fresh fruit, dried fruit.
- (6) **Think ahead:** Non-perishable foods can be brought to the competition or training site if food choices are limited there.

Contributors

Marielle Ledoux – Nutrition resource person, Centre national multisport – Montréal (Québec); Chairperson of the SNAC Program, Coaching Association of Canada

Marilyn Booth – SNAC Program Coordinator, Coaching Association of Canada

Alain Marion – NCCP Director, Coaching Association of Canada

Kelly Anne Erdman – Nutrition resource person, Canadian Sport Centre Calgary (Alberta)

Susie Langley – Nutrition resource person, Canadian Sport Centre Ontario

Susan Crawford – Nutrition resource person, PacificSport Canadian Sport Centres (Vancouver and Victoria)

Pam Lynch – Nutrition resource person, Canadian Sport Centre Atlantic

Rennie Benedict – Nutrition resource person, Canadian Sport Centre Manitoba

References

Health Canada. Canada's Food Guide to Healthy Eating. Ottawa: Minister of Public Works and Government Services Canada, 1997

Health and Welfare Canada. Nutrition recommendations: the report of the Scientific Review Committee. Ottawa: Minister of Supply and Services Canada; 1990

Sport Nutrition Advisory Committee, Coaching Association of Canada

I - PRE-RIDE	II - DURING RIDE	III - FIRST 30 mins AFTER	IV - POST RIDE
MORE THAN 4 HRS BEFORE Normal meal at meal time eg lean meat/fish, vegetables, fruit	DURATION 1 HOUR NO FOOD OR DRINK EAT/ DRINK EAT/ DRINK		1 HOUR OR LESS: resume normal diet pattern after first 30 minutes post-ride
3 HOURS BEFORE 600-900 calories high carbohydrate (75%) with some protein	2 HOURS START feeding by 30 minutes 600- 1000 ml water or sport drink EAT/ DRINK EAT/ DRINK	RIDE 2 HOURS OR LESS: 1 700 ml bottle sport drink per ride hour	
2 HOURS BEFORE (if you didn't eat 3 hrs before) 200-300 calories high carb, some protein	3 HOURS START feeding by 30 mins. 600-1000 ml per hr sport drink OR 1 gel plus 600-1000 water per hr EAT/ DRINK	RIDE MORE THAN 2 HRS: 1 bottle recovery drink* as soon as possible (10 mins) PLUS	RIDE OVER 1 HOUR: Follow post-race recovery diet for as many hours as you rode. After 30-45 minutes post-ride but before the next regular meal: include raisins, small amount of additional salt, and fresh fruit or pure fruit-based drinks (avoid sweetened fruit drinks)
1 HOUR BEFORE Water only- 500 ml over the last 50 minutes If event lasts longer than 1 hour, 10 mins BEFORE: 1 gel + 250 ml water	4 HOURS START feeding by 30 mins. 600-1000 ml per hour sport drink OR 1 gel plus 600-1000 ml water per hour EAT/ DRINK TOTAL 3-5 bottles OPTION diluted coke or gel with caffeine in last 30 mins. EAT/ DRINK	1 more bottle recovery drink for every additional hour (eg 4 hr ride= 2 bottles) * Recovery drink is a special mix or liquid available from many sport drink manufacturers. It includes carbohydrates along with some protein and minerals.	At first regular meal after ride: add boiled/baked potatoes or sweet potatoes to regular meal (lean meat, low fat, vegetables) Continue rehydration: recover to pre-race body weight After post-ride recovery period, resume normal diet
CYCLING DIET PLAN - See Canada's Food Guide for daily regular diet examples			

Working With Athletes With a Disability

First Involvement

When coaching athletes with a disability (AWAD), “first involvement” usually refers to the first time an athlete encounters a sport, or has an opportunity to try a sport. It is important to understand that “first involvement” works both ways- when the athlete meets the sport and coach, and when the coach meets the athletes. In this section we will look at both sides of “first involvement”.

First Reactions

For both coach and athlete, first involvement may bring apprehension or fear. The athlete may be asking: “Can I do this? Will I be accepted?”

The coach may be asking the very same questions. The first time meeting

and working with AWAD, the coach may wonder what the athletes are capable of doing, and in the case of athletes with an intellectual disability, what they are capable of understanding. Lack of knowledge about disability may lead the coach to make wrong assumptions; sometimes a motor control or speech impairment may lead the coach to think the athlete has an intellectual or learning impairment, when this is not the case. When people meet, there is always the possibility of an awkward moment. In the case of AWAD, lack of understanding by the coach, or the concern of spectators or parents of the athletes, may make the moment of first involvement seem even more awkward.

Coaches need to remember that these are boys, girls, women and men *who just want to participate in sport*. When coming into an established program the coach should:

- Be open and honest, especially if he/she has not worked with AWAD before;
- Avoid assumptions about what the athletes can and cannot do;
- Ask questions, of the athletes and other coaches;
- Assess the ability of athletes much as he/she would assess any other athlete.

When starting a new program, or welcoming a new athlete, the coach should remember that the athletes may share the same worries. It can take more courage for an athlete with a disability to try a new sport. A negative first involvement may mean the potential athlete is lost to the sport forever.

So,

- Talk with the athlete and learn about them- what their mobility or other restrictions are, and how they feel about trying the sport for the first time;
- Talk with the other athletes on the team or in the group, introducing the new athlete;
- Remember that an athlete with a disability wants to be treated with respect. They may not want to receive any special attention or help. If they do want something, they will ask;
- Set the new athlete up to succeed, by choosing appropriate activities, pairing them with a more experienced athlete, and offering honest praise for a good effort;
- Emphasize that everyone has a right to participate. Don't let the new athlete worry that they are holding things back or slowing the group down.

Understanding Disability

An excellent resource to help coaches learn more about working with AWAD is Coaching Athletes With a Disability, from Coaching Association of Canada. Much of the information in this section is drawn from that resource.

The different types of disabilities are grouped into broad categories such as mobility impairment, sensory impairment, and intellectual impairment. Disabilities are either congenital (i.e., present at birth) or acquired (i.e., not present at birth, but acquired through a traumatic injury or an illness). Basic information, including specific safety considerations and recommendations to coaches, is presented in Coaching Athletes With a Disability.

For the coach, it can be important to know whether a disability was acquired or congenital. A person who acquired a disability in an accident may possess skills from previous sport experience and may know about training but now need to relearn some skills. Someone born with a disability has typically adjusted to how his or her body operates; however, sport opportunities may have been limited, and as a result some motor or sport-specific skills may be delayed.

Persons with a disability have usually gone through rehabilitation or therapy during which they have provided their life story on numerous occasions to nurses, doctors, and others. Sharing personal information about their disability is generally not an issue. The coach can ask specific questions about whether or how the disability affects balance, movements, etc.

Behavioural patterns may differ greatly amongst persons with an intellectual disability. Assessment methods are available to help coaches identify the situations that may cause changes in behaviour, and information is available on specific strategies to effectively manage these situations.

Some athletes with a disability may also need medication. Generally, the medication issues for people with a disability are the same as with able-bodied people. For example, medication may be required for diabetes, asthma, a heart condition, seizures, or some other health-related problem.

Initially, the person with a disability (or, in the case of young children, a parent) is the best judge of what the individual can or cannot do on the playing field. The best way to get these answers is to ask.

Some athletes with an intellectual disability can easily explain their needs and objectives to a coach, while others may not be as verbal or as clear. Therefore, it may be essential for a coach to talk to a parent or guardian to learn more about the disability.

Communications

Good communications between coaches and athletes or parents is essential in any sport. When working with AWAD, there are a few additional factors to be aware of.

- AWAD, especially those with congenital disability, participating for the first time may have less sport background than able-bodied athletes of the same age. They may not be as familiar with certain terms or expressions used by coaches as other athletes.
- Overprotective parents are more common. Parents may have particular concerns about safety, access, or integration. While these concerns may have some validity, it is important to position sport participation as a means to athlete development and self-sufficiency. Just as for able-bodied athletes, sport helps people grow and develop confidence. Work closely with parents to help relieve their concerns.

The Coaching Association of Canada manual *Coaching Athletes with a Disability* offers these “Do’s and Don’ts”:

- Do not be scared to ask questions
- Ensure equal treatment
- Do not assume that athletes with an intellectual disability do not understand

- Have a well-structured practice plan and use a progressive approach with athletes that have an intellectual disability
- Sit down when talking to a person in a wheelchair
- Ask permission before touching a wheelchair, crutches or walker.

At first involvement, an open welcoming attitude, willingness to ask and answer questions, extra time dealing with parental concerns if raised, and an effort to see beyond the disability will help get both coach and athlete off to a great start!

[Return to Workbook, p. 162](#)

Step 4: Race Tactics and Support in Competition

Providing good support to an athlete at a race is one of the most important jobs of the coach. Many athletes feel considerable stress, especially when they are first learning to race, and the experience and guidance of the coach can be a great asset. At the same time, the coach is teaching the athlete to be more and more self-sufficient in future.

In this step of the Workshop we will examine race support in three main phases: Pre-race (the day before), Race, and Post-race (the minutes and hours immediately after the race). This will include coaching race tactics to be used during a race, and there will be time to plan and practice leading a tactics session.

Role of the Coach and Athlete

Ultimately success in competition is up to the athlete. The job of the coach is to help the athlete. However, the coach also works to teach the athlete to become more self-sufficient over time.

1. Review the following list of pre-race, in-race and post-race tasks and indicate with a check-mark in the appropriate column if the task is mostly the coach's job or mostly the athlete's job. Use a novice racer in his/her first race as an example.

Task	Coach?	Athlete?
Inspect and prepare the rider's bike the day before.		
Pack the rider's equipment and clothing for the race.		
Make sure the rider eats properly the day before.		
Make sure the rider gets enough rest the day before.		
Make sure the rider has registered for the race.		
Make sure there are tools and spares available.		
Do some mental preparation the day before the race.		
Make sure a first-aid kit is packed.		
Make sure the rider gets to the race early.		
Make sure the rider eats properly on race morning.		
Unpack the rider's bike and check it at the race.		
Take the bike to bike-check (if applicable).		
Sign in at the registration table.		
Ride, walk or view the course before the race.		
Go over the best strategy and tactics to use.		
Make sure the rider is wearing appropriate clothing, equipment, sun protection (as appropriate).		
Make sure the rider does a good warm-up.		
Make sure the rider takes appropriate food & drink with him/her (if appropriate to race type).		

Go to the start area of the race.		
Help rider with race focus, final thoughts before start.		
Provide encouragement to the racer in the race.		
Provide time checks (if appropriate).		
Provide race feeding (if appropriate).		
Help rider with mechanical repairs in-race (if appropriate to type of race)		
Have warm or dry clothes ready for the racer at the finish.		
Have drink ready for the rider at the finish.		
Keep track of the rider's placing.		
Encourage the rider at the finish.		
Ensure the rider cools down properly.		
Provide food, drink to assist recovery post-race.		
Assist rider with doping control, protests, etc. is applicable.		
Re-pack rider's clothing, equipment, and bike.		
Hold a short debriefing about the race.		
Attend awards ceremony.		

2. Compare your list to that of another coach. Did you agree on the roles of the coach and novice racer?

3. Now go over your list again. For every task you thought the coach should do, consider if this is a "permanent" task or one the coach can teach the rider to be responsible for in time. Circle the check-marks when you think the coach can eventually delegate all or some of this task to the rider.

Pre-race: The Day Before

Scenarios

The day before the race is important part of race preparation. It is an opportunity for mental and physical preparation, rest and proper nutrition and hydration, and checking and organization of equipment. Here's how our two novice racers, Sofia and Lucas, spent the day before their first race.

Sofia is stressed. She has a big assignment due for school and it's made it hard for her to train over the past week. She worries that she's not ready for Sunday's race. She went out this morning for a short ride, and her bike is ready. Eventually she decided to race anyway, since she didn't want to let anyone down. She's had a good dinner (she's a vegetarian) and her race bag is packed for tomorrow.

She spends the evening working on her assignment, and has some coffee to keep her going. She goes to bed about 1 am- later than she planned, but the assignment comes first. Now she's having trouble getting to sleep. She wishes she had decided not to race tomorrow!

Lucas went out for a short road ride with his brother in the morning. He's quite relaxed and looking forward to the race. His Dad will be giving him and his brother a lift tomorrow. His bike seemed OK, but he doesn't really check it out and it's been a while since it was cleaned or lubricated properly. Lucas doesn't eat his dinner but has a pizza slice and pop with friends about 9 pm. Then he goes home and watches TV. He goes to bed about 11 pm without putting his things in a bag for tomorrow- he's usually a bit disorganized.

In many cases the coach will not be with the racer on the day before the race. The coach can give advice or a specific program but responsibility for preparation will rest with the athlete and possibly, the athlete's parents. Work with the rider in advance to help them create a pre-race routine.

1. List your main objectives for a new racer on the day before the race. Write one or two key points using the following five headings: Physical, Mental, Technical/Tactical, Sustenance (nutrition/hydration and rest/recovery), Other.

Physical: _____

Mental: _____

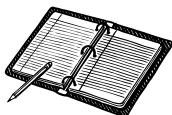
Technical/Tactical: _____

Sustenance: _____

Other: _____

2. Considering the age and stage of your case study athlete (refer to your Athlete Profile Snapshot in the *Portfolio*), what approach(es) should you use to help create an effective pre-race (day before) plan? Circle the ones you think will work best (as many as apply):

- Create a detailed written plan for the athlete.
- Create a detailed written plan for the athlete's parent.
- Discuss the importance of a day-before plan with the athlete to help educate them.
- Do a day-before "rehearsal" as a training session with the athlete, a week or more before their race.
- Don't do a detailed plan or rehearsal; instead, work on one element at a time over a period of weeks or a season, until all the elements are in place.



Now complete the Athlete Pre-race Plan worksheet in the *Portfolio*. Be sure to include all forms of "day-before" preparation appropriate to your case study athlete- Physical, Technical/Tactical, Sustenance (nutrition, rest, recovery), and Mental. Also include important day-before activities such as organizing and equipment preparation from the list above.

Race Day: To the Start Line

Race day can be very exciting, and very stressful. From the time the rider arrives at the race site there are many things to do and many distractions. The coach can help the athlete by working with them to create a routine that becomes a habit and helps reduce stress.

Scenarios

It's the big day! Sofia and Lucas are at their first race.

Sofia is at the race early. She drove out by herself, but her mind is on her school assignment. She registers and gets her bike ready, then puts on her clothing, shoes and helmet. She warms up a bit, but she is a little distracted. Who will she be racing against? She's starting to worry a bit.

The coach works with almost all the athletes racing today, except for a few from another city. That means he coaches most of Sofia's competitors. He has given both Sofia and her opponent a basic program and helped them practice staying on it in training sessions. Sofia is not sure how it will work

out. She finishes warming up, and suddenly she's called to the line! Sofia's really distracted now- she's forgotten everything she's learned.

Lucas and his brother are at the race in good time, so they register, dress, warm up and then sit down and have a drink of water. Lucas will be riding a mixed-age novice points race, just like he's done several times in training...except this time it's a real race! Everything would be fine except Lucas's Dad seems to be getting into an argument with the coach. What's that all about? Apparently Lucas's Dad wanted him to enter another event but the coach thinks it's a bad idea. Now Lucas's Dad is in a bad mood, and Lucas feels annoyed at everyone.

1. List your main objectives for a new racer on the morning of the race, from arrival at the site up to the start. Write one or two key points using the following five headings: Physical, Mental, Technical/Tactical, Sustenance (nutrition/hydration and rest/recovery), Other.

Physical: _____

Mental: _____

Technical/Tactical: _____

Sustenance: _____

Other: _____

2. What are some key organization points for the coach and rider? Discuss with another coach.

Race Day Focus: Warm Up

A good warm-up helps the athlete perform better at the start of an event. In short-duration events the warm-up is even more important.

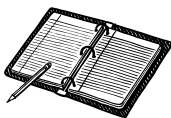
Some of the objectives of a good warm-up are:

- Athlete is sweating lightly when he/she comes to the start line;
- Athlete's muscles feel warm and loose, and generally ready to start at high intensity;
- Athlete is focused on the race and on the start, and feels mentally prepared and ready.

1. Create a warm-up plan for your athlete. Make sure it is appropriate to age and stage as well as the discipline or event. Explain specifically When to warm up (how many minutes before start) and How to warm up (specific exercise, gear to ride in, number and type of efforts, etc.)

2. What else can the athlete do while he/she is warming up? Can you integrate some other important pre-race activities? List a few ways to do this:

Putting it All Together



3. Now complete the Athlete Race Day Plan worksheet in the *Portfolio*. Be sure to include all forms of preparation appropriate to your case study athlete- Physical, Technical/Tactical, Sustenance (nutrition, rest, recovery), and Mental. Also include important race day activities such as organizing and equipment preparation.

Go! Coach Activities During the Race

The race has started! What are the best ways for the coach to help?

Coach Support During Competition

When the race starts, it's all up to the racer. The coach can only help in limited ways. However, these are still important functions and the coach should be able to manage them well.

Scenario

They're racing! Even though they've only just started, Sofia and Lucas are having very different experiences in their races.

Sofia was distracted at the start and she lost a few meters to her opponent right away. When she saw what was happening she panicked and went extra hard to catch up. She was losing! The next lap the coach was signaling her to slow down, and she was feeling the effort in her legs- with a long way to ride.

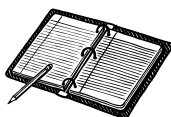
Lucas didn't even want to race. Angry with his Dad, he went to the line and took the start of his race. Soon he calmed down and started to feel he was getting into the race. Without seeming to try, he found himself in the lead! He felt the same panic as Sofia did, but for a different reason. He was winning- what should he do now?

1. Earlier, when you were reviewing the "Race Analysis" information in the *Reference Materials* and filling out the Analyzing Your Cycling Event sheet in the *Portfolio*, you came across some of the mental preparation needs for Track racing. Review these briefly.

- (a) What things do you think Sofia and Lucas should be focusing on at this point in the race? Put a check mark beside those things on the following chart.

Correct Focus or Not?	Sofia	Lucas
Where the other competitors are		
Following the right line		
Winning		
Can Dad see me?		
My bike isn't very good...		
This is scary! Help!		

- (b) Work with another coach and develop a race focus plan to help your own riders. First, break the race into main phases or blocks, such as Start, First Turn, and Finish. Then list 1 or 2 key things for the rider to focus on in that phase. Finally, create a “cue word” to help the rider remember his or her focus at that time. (The “cue word” can be 1 to 3 words long, but it should be as short, simple and powerful as possible.) Fill in the *Race Focus Plan* form in the *Portfolio*.



2. Take a look at the following list of activities the coach could be doing while the racer is competing. Put a check mark beside the activities you think are appropriate. (Some activities may not apply to your discipline or event- mark these NA for not applicable.)

Coach Activity	Appropriate?
1. Watching the rider closely to analyze his/her performance	
2. Cheering the rider on	
3. Shouting instructions to the rider	
4. Giving the rider time checks (e.g. “30 seconds behind!”)	
5. Giving food/drink to the rider in a feed zone	
6. Helping the rider with a mechanical repair	
7. Helping to prepare other riders who will be racing soon	
8. Having a quick snack or drink	
9. Calling home to check on dinner	
10. Taking video of the racer for later video analysis	
11. Preparing snacks or drinks for the rider(s) when they finish	

Get some feedback from the group on your choices. Did you think of any other appropriate tasks? Did you change any of your choices?

3. Depending on the cycling discipline and event you coach, one or more of the following may be key tasks supporting your rider in competition:
- Giving the rider time checks (e.g. “30 seconds behind!”)
 - Giving food/drink to the rider in a feed zone
 - Helping the rider with a mechanical repair



p. [204](#)

Choose a task relevant to you. Read the information on “Support During Events” in the *Reference Material* . How would you design a practice session for your cyclist(s) to teach them how to use/receive this assistance in a race?

After the Race

When the race ends the coach can help the athlete by ensuring adequate cool down and recovery and holding a post-race discussion with the athlete. The coach can learn, too, by reviewing the race and thinking about how to do better next time. In some cases, if the athlete is riding multiple heats, the recovery process may lead into the warm-up for the next event.

Scenario: Post-race Discussion with the Athletes

Sofia finished second. Her pace went up and down and she really struggled at the end. Now she's angry with herself. The coach gives her a pat on the shoulder and says "good ride" but she's beginning to wonder why she wanted to race in the first place.

Lucas was thrilled right after the race. He finished third; other riders with more experience collected more points but Lucas made it "on the podium". The trouble is, since the coach and Lucas's Dad are angry with each other, nobody congratulated Lucas- except for his brother. Now Lucas is getting angry again at the lack of attention.

1. How you communicate with the rider at the end of the race is important. What they remember and learn from the race experience and how they feel about themselves and their performance can be affected by your words and actions. Think about how you would handle a discussion with either Sofia or Lucas. What should the coach stress in discussion with each rider? What should the coach avoid doing or saying?
2. Considering the importance of maintaining self-esteem in athletes, and the age and stage of your athlete, how do you want to communicate? List a few things to remind yourself of, as you begin a post-race discussion.

3. Work with another coach or coaches in the Workshop to develop a post-ride communication plan. What is important and what can wait for later? Consider some of the following situations:
 - a. Athlete has exceeded his/her performance expectation;
 - b. Athlete has not met his/her performance expectation;
 - c. Athlete is angry or visibly disappointed.
4. Considering the age/stage of your athlete what “rules” would you create for:
 - What to say
 - When to say it
 - How much time to spend on post-race discussion

Post-race Focus: Recovery

Depending on the nature of your cycling discipline or event, the athlete may need to race again in minutes, or the next day. Proper recovery strategy is important after the race but, due to a number of factors, the athlete may pay less attention to recovery immediately after a race than after a training session. What can the coach do to help the athlete recover after the race?

1. What have you heard about the role of diet in post-ride or post-race recovery? Make some notes (you may partner with another coach).



p. [181](#)

2. Now, read over the section titled Strategies to Promote Recovery in the *Reference Material*. Is there any new information there? Add to your notes.

3. What about the role of exercise (cool-down) to promote recovery? What is an ideal cool-down routine?

Race Tactics

Earlier you had a chance to work on coaching skills. Now it is time to see how the skills are linked (or “integrated”) to execute basic race tactics. Think back to the discussion of strategy and tactics from earlier in this Workshop. The tactics covered in Skills and Tactics are:

MTB Skills	Road Skills
• Starts • Passing • Pace management • Finishing.	• Race evaluation- based on terrain and rider ability • Breaking away • Riding in a breakaway group • Sprint finish.
BMX Skills	Track Skills
• Blocking and Passing • Turn tactics • Track management.	• Riding to a schedule (e.g. pursuit) • Two-rider sprint tactics • Moving within a group/pack (e.g. points race).

You (individually, or in a group) will follow the same process you used earlier when creating a skills lesson plan, to create and deliver your tactics lesson. You may wish to review the information you received in Step 2 earlier.

First, the facilitator will lead a session on race tactics. As you observe each tactic, look for the following:



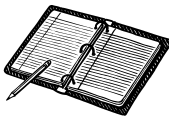
p. [208](#)

1. Are there some rules or principles to use when working with riders on developing tactics? What do you think they are? When you’ve created your list, check *Activities for developing tactics* in the *Reference Material*.
2. When you watch a cyclist performing a tactic, which skills combine to allow the rider to execute the tactic effectively? How are the skills linked together? This may happen very quickly, and you may need to observe the tactic several times to see how the skills combine.

3. What does this mean for the teaching of skills and tactics by the coach? How would the coach's job be different when instructing different levels of athlete (athletes in different LTAD stages)? In other words, how does skill proficiency, or lack of proficiency, affect execution of tactics?



Workbook
p. 201



4. Use a new *Tactics Planner* Sheet to prepare a tactics lesson. Be sure to choose a tactic that builds upon the skill you chose previously. (When complete you will have filled out two Planners- one for a skills lesson, one for a tactics lesson. Include these in your *Portfolio*)

Cycling Tactics Planner

Use this sheet to plan a tactics development session.

Tactic: _____

Describe the tactic:	Set-up and Equipment:
Teaching Points:	Demonstration Plan:
Progressions:	Activity Plan for Group:
Errors and Corrections:	Observation Plan:
Summary/Wrap-up:	

Model coaching by the facilitator

The facilitator will demonstrate how to coach a tactical activity with a group of participants. As you did for the skills session previously, watch how the facilitator follows the guidelines for:

- selection of the activity
- safety before the activity
- explanation
- demonstration
- organization
- safety during the activity.

4. What skills must be combined to execute the tactic successfully? How does the demonstration help make the elements and decisions clear?
5. If you tried the tactic yourself, what were the key cue words or phrases that helped you perform it correctly?

Practice coaching session

Now you will have an opportunity to present your tactics lesson to fellow coaches. You will be asked to:

- coach your activity
- listen to some feedback from the facilitator and other coaches
- take five minutes to complete *Self-assessment Sheet #1 and Sheet #2*
- jump back in and be a participant while another coach practises.

Debriefing your practice coaching session

Discuss your self-assessment with another coach. Practise being an active and effective listener when another coach is commenting on his/her performance.



Take a few minutes on your own and note on your Action Card anything that you learned from the first practice coaching session. Be sure to note things you did well, things you need to improve, and ideas from watching others practice coach.

Cycling Skills and Tactics

Reference Material: Race Tactics and Support in Competition

ROAD, MTB

Support During Events

During a race, all your interaction with your riders will be from the side of the course. However, there are many valuable services that can be performed for the riders from this location:

- feeding the athletes during the race
- exchanging eyewear
- providing split time information or positions

Race Feeding

Even if a race is relatively short or the weather cool, riders can lose up to one litre of fluid per hour due to sweating; however the body cannot absorb more than approximately one half litre (10 ml/kg/hour) of fluid in the same period. Consequently, losing a water bottle and not having it replaced can be a major setback for a rider. Therefore, in any race where feeding is permitted (see the CCA rule book), the coach should either hand drinks to the riders or arrange for someone else to do the feed.

Feed Zones:

The feed zones in a road or mountain bike race allow the coach to pass food and fluids to a racer. In MTB XC replacement eyeglasses can also be passed. Technical information can also be given. The most pertinent information to a rider is split time and placing in the group or against another rider.

The coach should be aware that in a MTB race there is to be NO technical support or touching. If the coach does either, the rider may be disqualified. See MTB Rules. In road races technical support (e.g. wheel changes, other minor repairs) may be permitted alongside the course, or in designated “pit” areas in a circuit race, but this is strictly forbidden in feed zones which are for feeding only. See Road Rules.

The *coach must*:

- Be visible and in sight of the racer, wear a team jersey or jacket
- The jersey may be worn backwards with pockets in front if feeding more than one rider in a race
- Be prepared at all times
- Organize bottles for each rider, with names on individual bottles
- Keep water cool, if applicable/possible
- Open the top of the spout so that the rider can drink immediately (optional)
- Grasp the bottle by the top
- Get acknowledgement from the rider that a feed is wanted (or what is wanted)
- From the side of the trail/road, extend the arm over the trail/road
- Hold the bottle up until the rider has grasped it
- Stay within the feed zone
- Be aware of and do not interfere with other riders and coaches
- Wear appropriate footwear and avoid running in the feed zone

Riders Responsibilities:

The rider has the following responsibilities when a bottle is being handed up:

- To come to the side of the course to take a feed. The feeder must not run into the trail to reach the rider
- To signal to indicate that a feed is wanted
- To place themselves in an optimal position for taking a feed, possibly slowing down if the feed zone is on a very fast section of trail
- To throw off the bottle where the feeder can see it. It may be necessary to refill the bottle and hand it out again. Avoid mix-ups in returning bottles to different athletes to reduce the chance of spreading infections.
- To extend the arm to grasp the bottle. The rider should then retract the arm rapidly and put bottle in cage. Practice before competition!

Calculating Time Differences (The Gap)

The coach can help riders by giving them time checks, that is, information on the difference in time between themselves and the leading or chasing groups. Time information can help the rider with setting the pace, especially in the later phase of the race and can provide information on other riders which could be pertinent to the strategy in the race. Time checks can be provided in two ways:

- Start the watch as the leader passes, calculate the difference between your riders and the leaders, and shout the time to your riders as they pass. Unfortunately, you cannot use this method to give time checks to the lead group.
- Select a section of course where you can see far enough back or use walkie-talkie to relay lead group splits to an assistant farther up the course to relay splits as the leaders go by.

Fixing a Flat Tire

Of all the mechanical problems that may arise, changing a flat is by far the most common and should not be a problem for the rider. NOTE: In MTB events the rider must change the flat during the race and will be disqualified if assisted. Have them try this quick method in a training session.

Rear Wheel Change (rim brakes):

1. Change rear gear to smallest cog
2. Unfasten brake pads and quick release
3. Slip wheel out of drop outs
4. Remove tire by lifting tire edge off the rim with tire remover

5. Slip tire out of the way of tube
6. Pull tube out of tire casing
7. Inflate tube slightly and insert the valve into valve hole
8. Place new tube around wheel and seat properly
9. Pull tire over tube, ensure that it is not pinched by using thumbs to depress the tire around the rim base
10. Inflate tube, check for pinches
11. Replace wheel into drop outs, close quick release
12. Refasten brakes
13. Go

This method would be modified for disc brakes: Step 2 would be, “remove through-axle” and Step 11 “replace and tighten through-axle”.

Support After the Race

The coach should consider support after the race as important as preparation. The support provided afterward can set the tone for future competition by putting successes into perspective and commencing post race recovery.

Meet the rider at the finish line as soon as possible after the event. Support should start at the finish line and includes:

- food and drink
- warm clothing, if needed
- cool-down, athletes will often need to be reminded to cool down
- quick evaluation of the race, if appropriate
- doping control procedures, if required
- check results as soon as possible after they are posted
- an appeal if necessary
- attendance at the Award Ceremony
- evaluate and debrief on performance
- have the team meet as group 30-40 minutes post-race at a predetermined location.

The rider may need assistance in communication with officials and/or the race organizers and the coach should be prepared to submit a protest if the situation merits attention.

The coach should be prepared to drive the rider, bicycle and all the equipment the rider needed before the event back to the accommodation or hotel. A rendezvous should be determined after the cool-down, so that no one misses the departure to the hotel.

After all the races are completed, the coach should inspect hotel/accommodations for articles left behind and that the rooms are in good condition. Report problems to the management, pay the hotel and room charges.

Plan the return trip home and advise the riders of their responsibilities and schedule for departure. Plan enough time to ensure that all equipment is packed properly. Ensure that the vehicle is in good order, filled with oil and gas. Plan enough time for the riders to eat before departure.

Allow enough time in the planning that everything can be accomplished in the amount of time allotted for departure. The key is to plan ahead and have the team of riders agree about the time so there is not too much of a rush. Late results, protests and/or doping control procedures should be planned for.

Summary

As a coach you will be responsible for the safety and wellbeing of individuals at events and training where there will be a need for planning, organization and management skills. Planning ahead and looking for the inevitable will help prevent situations where the rider will lose valuable training or racing time. It may also prevent an accident, ensuring that everyone involved is secure and able to profit from the environment to their fullest.

The organization required for a small team is usually the same organization needed for a larger group, however remember that the larger the group the longer it takes to deliver the plan.

It is the athletes and coaches responsibility to work together to ensure the best possible result from an event. When coach and athlete both know that each has worked to the best of their ability there is no room for disgruntled feelings or negative attitudes about the result. Each should be able to agree that they have raced or coached to the level entrusted to them.

ALL DISCIPLINES Activities For Developing Tactics

- The activity should imitate competitive or real-play situations at the performance level of participants/athletes.
- Participants/athletes must have a clear understanding of the desired objective for the situation/activity (e.g.: quick transition in order to outnumber the opponent; surprise an opponent in order to gain an advantage in a particular situation).
- The situation should involve some degree of uncertainty, and should present a number of options for the participants/athletes. Avoid stereotypical and predictable situations wherein the participants/athletes do not have to think or focus.
- Participants/athletes should be encouraged to be creative.
- The activity should be performed at game speed; in some cases, especially in the first few trials or to ensure that participants/athletes have a clear understanding of the intent of the activity, the pace can be somewhat slower.
- Take time to question the participants/athletes about their choices or decision-making process in order to help them discover the various options they had in the situation presented to them; this approach requires the participants/athletes to reflect critically on their choices.

Some examples of questions include:

- What did you see in the situation?
- What choices did you think you had, and what did you think would have been the possible outcomes of each?
- What clues did you use to guide your choice(s)?
- What were you hoping would occur as a result of your choice(s)?
- What do you think is the best way to take an advantage over the opponent in this situation? Why?
- What can you do to hide your intentions to the opponent as long as possible?
- What actions can you take to make the opponent uncertain about what you want to do, or about where and when you will do it?

BMX Start and Skills

Before the Start: Preparation

Physical Preparation

Before starting it is important to prepare correctly, following these steps:

- Slow riding: to warm-up the muscles
- Stretching: to make the muscles nice and supple and help prevent muscular strains and tears
- Rolling Snaps: to practice the necessary movement patterns
- Standing Snaps: concentrating on 2nd and 3rd pedal strokes.

Inspecting the Gate

It is best to leave nothing to chance. A good inspection of the gate will help reduce the chance of surprises:

- Gate height
- Speed of fall
- Angle of gate
- Angle of starting pad
- Grip of gate
- Grip of starting pad
- Painted numbers

Starting on Wet Gates:

- Keep tires clean
- Start to the side of grooves
- Lift pedal height
- Apply smooth pressure when snapping
- Keep weight over back wheel

Before the Race

Prior to each race it is important for the rider to mentally prepare themselves for the start of each race, using mental imagery skills to:

- Anticipate the time of release of the gate.
- Picture themselves coming out of each possible lane and the advantages associated with each lane.

Starting Stance

Initially, set the pedals in line with level ground and adjust higher or lower depending on the angle of the starting pad (ie.: Higher for steep gates and lower for flatter gates).

The riders back should be straight, hips back over the back wheel, head up and shoulders wide. Elbows and legs should be slightly bent to avoid locking of joints, while the hands should project vertically from the tops of the grips.

The bike should be set up straight onto the gate, so the rider can make a straight exit down the starting ramp.



Timing the Start

The goal in timing the gate, is to go out with the gate as it is released. Due to human reaction times, the rider must anticipate the release of the gate to achieve this goal.

To help achieve better timing the rider should follow these points:

- Pre-load the body by shifting the hips and upper body back
- Begin movement forward prior to the snapping action (pre-snap)
- At the right instant shoot the body forward, and make a maximum first pedal stroke as outlined in the snap.

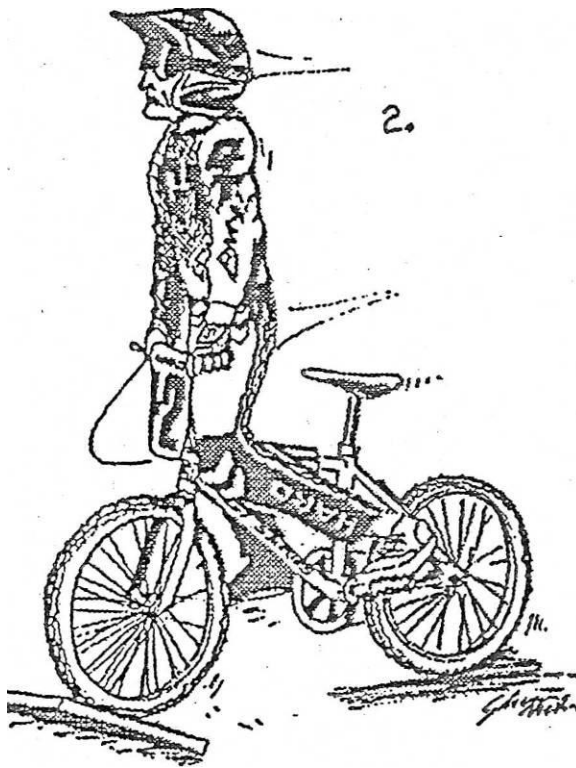
The Snap

Once the riders have developed their timing of the gate start, the next step is to develop the gate start action termed "the snap".

At the right instant the rider must throw their hips and shoulders forward into the front of the bike. The head and shoulders must stay forward for the first Pedal stroke to generate the maximum amount of leverage, to help make the first pedal stroke as powerful as possible.

The rider must continue to pull through on the first pedal to the 9 o'clock pedal position to help generate a smooth transition for the second pedal.

The rider must then transfer their body weight back over the back of the bike for the third pedal stroke onwards, so they can develop a good rhythm as quickly as possible.



2. The Snap



3. Acceleration

TIPS FOR COACHING THE BMX START

THINGS FOR THE COACH TO LOOK FOR

- Bike Set Up
- Rider's Stance
- Pre-loading
- Pre-snap
- Anticipation
- Snap Technique
- 1st, 2nd and 3rd Pedal stroke technique
- Gearing (hard or easy)
- Crank length

QUESTIONS TO ASK THE RIDER

- Is your pedal too high/low?
- Where are your feet positioned on the pedals? Is your back straight?
- Are your hands wrapped forward on the grips?
- Are your elbows and knees bent only slightly?
- Are you timing the snap too early/late?
- Is the front wheel coming up too high?
- Is the second pedal stroke too slow?
- Are you off balance during the snap?

GAMES AND DRILLS FOR STARTING

- Deadman starts without the gate
- Deadman starts from the gate
- Starting on the opposite foot Rider watching the lights
- Full cranking (3 o'clock to 9 o'clock) Increase the gearing
- Varying tracks/gates

JUMPING TECHNIQUES

Jumping is one of the most difficult BMX skills to master. There are many ways of negotiating jumps from pumping, speed jumping, double jumping and manoulling to more advanced techniques like bump jumping.

In this section we will examine these different techniques.

PUMPING

This is the most common of all jumping techniques, and it is a very important skill for the rider to possess.

When 'pumping' a jump the rider's main goal should be to keep both wheels in contact with the ground. This will be achieved by the rider compressing on the up-ramp of the jump and then extending on the down-ramp. The arms and legs of the rider should act like shock absorbers on a car.

When pumping, the rider should have their cranks in the level position; however they should be ready to start pedaling as soon as possible down the backside of the jump.

Pumping can be used by all BMX riders from juniors all the way through to seniors and masters. It is a skill which can be used on many different types of obstacles and its use will depend on the rider's speed over the obstacle and their current skill level.

Get your riders to practice pumping at your next training session by having a rolling race for distance around the track. No pedaling and plenty of 'jumping' will be a great drill for your riders.

JUMPING

There are two different, basic jumping techniques used in BMX. These are: jumping at speed which doesn't require the rider to lift but just to steer the bike (explanation) and diagram shown on page 42; and jumping which requires the rider to lift on take-off.

Lifting on take-off

As a rider increases their skill, speed and confidence they will be able to jump obstacles of greater distance and size when jumping these obstacles the rider will often need to *lift* on take-off in order to clear the obstacle.

The lifting technique requires the rider to slightly compress their body prior to encountering the up-ramp and then extend their body while lifting the bicycle off the up-ramp. The rider is actually performing the technique used in "bunny hopping" but this time off an up-ramp.

When the rider lands on the other side of the obstacle, they will need to 'compress' and 'soak up' the landing, once again acting like a shock absorber as was the case in pumping.

Manualling

Manualling through a jump is simply wheeling through the centre of double jumps, ensuring to keep the back wheel on the ground as the front wheel clears the peak of the second obstacle. Some points when manualling are:

- Press hard with the legs on the down ramp of the first obstacle
- Ensure the front wheel remains high enough to clear the second obstacle
- If the jump is smooth, try pedaling in the middle to gain extra momentum
- Maintain 1 or 2 fingers on the brake to help prevent looping out

Once the front wheel clears the second obstacle, push down hard on the front of the bike to help gain a smooth exit.

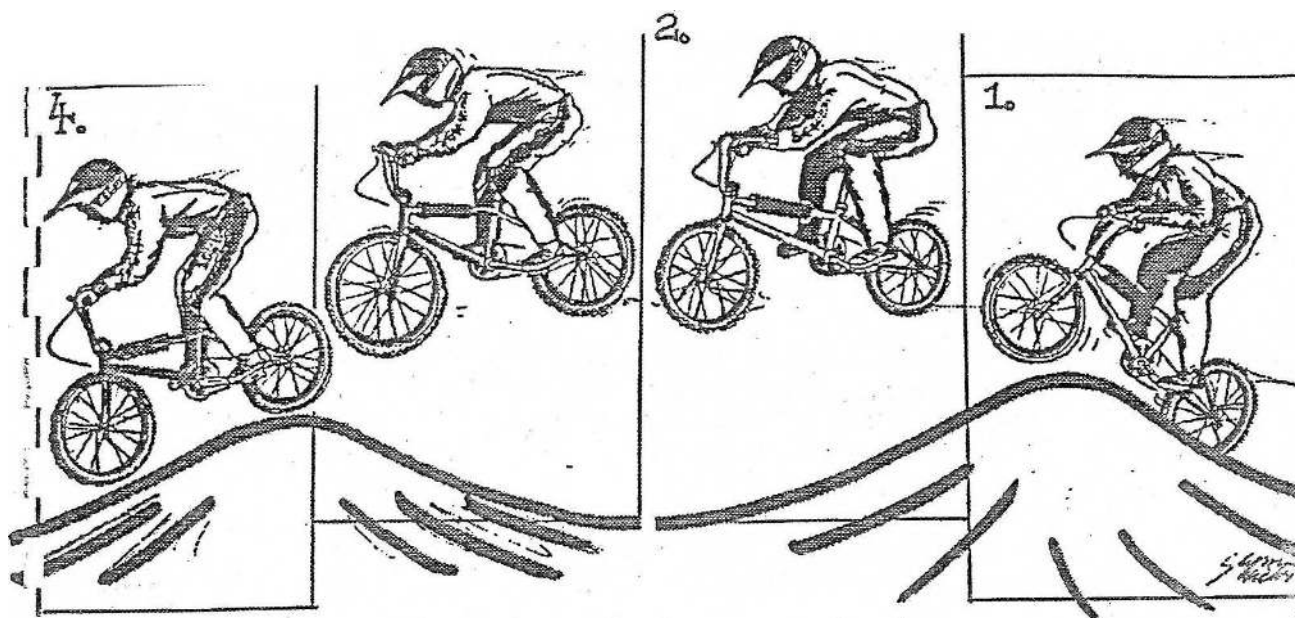
Speed Jumping

1. As the rider approaches the jump, they need to pull the bike up into a power wheelie. Keeping their eyes locked on the lip of the jump, with full concentration on front wheel and pedal clearance. (If either front wheel or pedals hit the lip, the rider could be in for a spectacular crash.)
2. When the rider encounters the jump, they must keep the front wheel as close to the lip as possible. Compress the legs on contact with the lip, crouch the upper body and allow the bike to rise up into the body while riding over the highest portion of the jump.
3. The rider is fully compressed with the bike completely tucked in. The head, trunk and butt are still maintaining a straight line. At this stage the arms and shoulders begin pushing the front end of the bicycle down the backside of the jump. With the rider's weight still being maintained well back to prevent the rider: being thrown over the handlebars.
4. The rider exits the jump by pulling their body forward to resume the power pedaling position. Through the whole jump the rider's upper body travels through a straight horizontal plane. To achieve this it is important the rider relaxes their arms and legs so they act as shock absorbers and keeps the body over the rear of the bike so the bike can ride up into the body over the jump.

SPEED JUMPING

1. As the rider hits the lip notice how the knees and elbows are bent ready to allow the bike to come up into the rider's body.
2. Once in the air the rider compresses the body low over the rear wheel, to allow the bike to maintain a flat trajectory over the jump.
3. At this point the arms and upper body should be pushing the bike forward to line it up with the landing ramp.
4. Exit the jump by resuming the power pedaling position as quickly as possible

Junior Riders often prefers to pump through jumps as they don't always have the speed or strength to double jump many of the larger jumps.



Bump Jumping

Bump jumping is an advanced technique, which is used by highly skilled riders and not beginner BMX riders.

This technique is used on jumps which have a steep up-ramp and little downramp for the riders to land on. These jumps are usually quite short. If hitting a certain jump (say a pair of doubles) in the normal fashion throws a rider into the air in such a way that it was difficult to get back down and land on the landing ramp, then bump jumping may be an option for the rider.

The bump jump technique involves the rider approaching the obstacle as though they are speed jumping it. Thus the rider has lifter their front wheel into the air and has gone up the face of the jump with only their back wheel on the ground. When the rider's bike gets to the crest of the lip, the back wheel will be flicked up and the front end of the bike will come down. The rider will now be in the air as in the jumping technique. The rider should land as in the basic jumping technique fashion.

When the back wheel gets flicked into the air and the front wheel comes down, it is of extreme importance that the rider doesn't have too much weight over the front of the bike. The reason for this is the front wheel is going to drop and could easily go into the next jump if performed incorrectly.

This technique is only suitable on very short jumps which the rider hits at very high speed. The faster the rider is traveling the easier performing this skill will be.

TIPS FOR COACHING BMX JUMPING SKILLS

WHAT COACHES SHOULD LOOK FOR:

- Body position during the approach to jumps
- Speed of approach
- Speed and body position while negotiating the jump
- Front wheel height
- Bike positioning and angles
- Landing
- Pedaling after the obstacle

QUESTIONS TO ASK THE RIDER:

- Did you approach the jump with enough speed?
- How close did you pedal to the bottom of the jump?
- Was your body in a smooth tucked position?
- Did the front wheel rise up too high?
- Were you endo-ing?
- Were the pedals horizontal to the ground?
- Was the bike straight going over the jump?
- How soon did you start pedaling after landing?

GAMES AND DRILLS FOR JUMPING:

- Bunny-hops: Flat ground!
- Practice pumping over jumps
- Practice lifting for height over jumps
- Coaster wheelies using brakes
- Sit-down wheelies using brakes
- Practice jumping with two fingers on the brake lever
- Scootering over jumps using brakes
- Style jumping

The ability to control the bike in the air is best developed through practicing style jumping.

CORNERING

When we think about cornering and passing, we need to think about lines.

When going around a turn it is important to travel in a consistent arch, while still attempting to either protect a lead, pass the rider in front of you, or just negotiate traffic. In general, there are four major lines around turns:

Inside Swoop: This is also referred to as the block pass, as it is an effective way to pass another rider and block their exit to the turn.

Outside Swoop: Also referred to as the block pass, and used effectively on riders protecting the inside line.

Railing Line: Is usually around the centre of the turn so the rider can maintain maximum speed. **Inside Line:** This is also referred to as the lead line and is the line the rider will generally take to protect their lead. This is generally the line which riders will use in the first corner of a BMX track.

The outside and inside swoops are depicted on the following page.

The easiest way to explain cornering and passing is to list the things riders should be doing and the things they should not be doing:

Should:

- Enter turns approx. 1 m from the inside
- Try to grab an extra pedal going in
- Shift more weight over the front wheel
- Prepare to impact against other riders in close traffic
- Favour the inside line when protecting a lead

Should not:

- Follow the rider in front, in case they wash out
- Throw elbows at other riders
- Go wide when protecting a lead
- Worry about traffic as it will affect your concentration
- Pull suicide passes, they only backfire.

TIPS FOR COACHING CORNERING

CORNERING: WHAT COACHES SHOULD LOOK FOR

- Approach
- Lines
- Speed
- Angle of Bike
- Position of Pedals
- Exit

QUESTIONS TO ASK THE RIDER

- Were you pedaling too deep into the corner?
- Are you entering the corner using the best line?
- Did you cover any inside opportunities?
- Were you using the brake correctly?
- Did you negotiate the corner at a reasonable speed?
- Are you placing the bike on an angle?
- Are you ensuring the inside pedal is in the upright position?
- Did you commence pedaling out of the corner at the earliest possible opportunity?

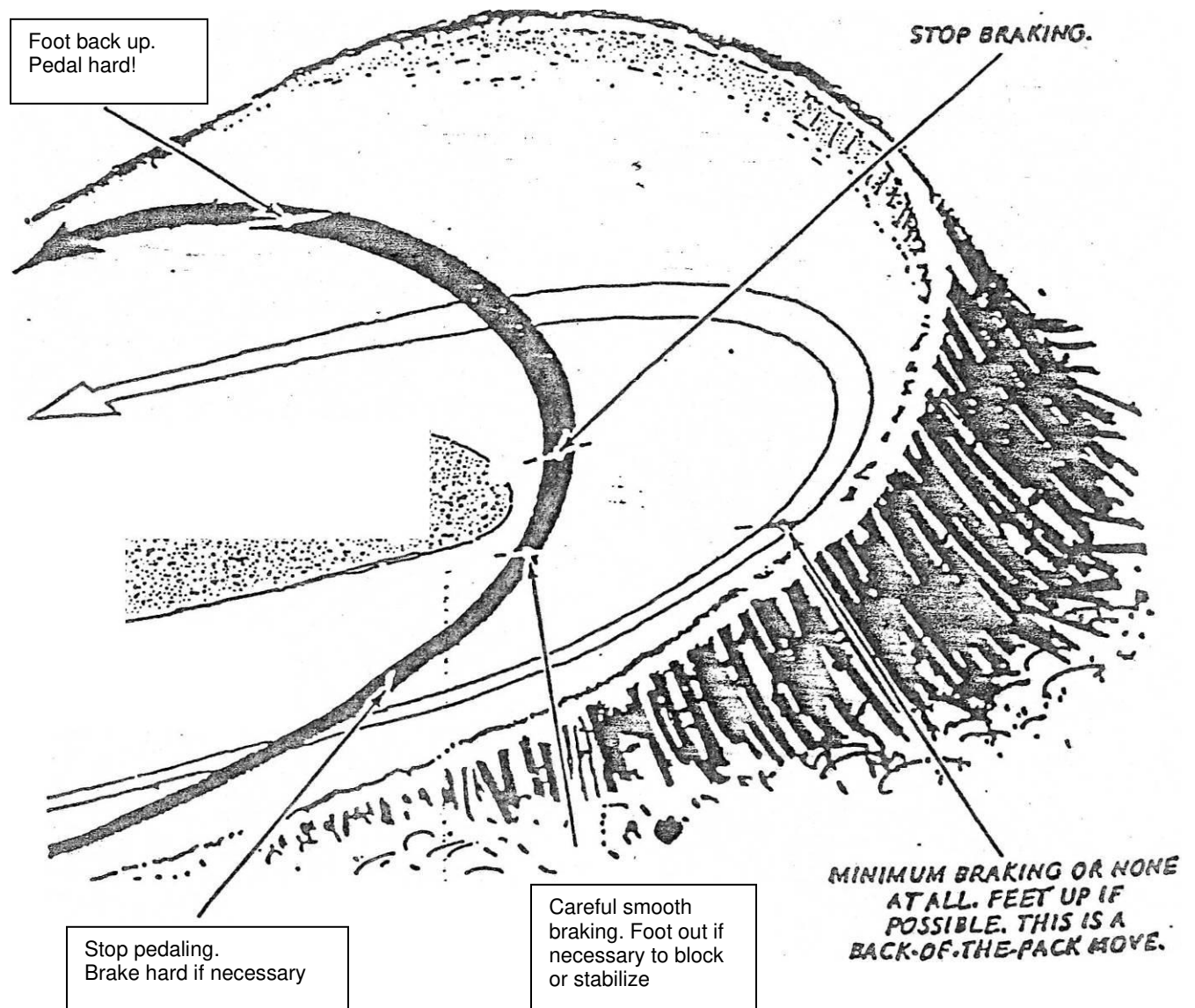
GAMES AND DRILLS FOR CORNERING

- Sprinting around one marker down to another
- Practice late braking drills
- Practice various lines in corners
- Riding the track in the opposite direction

TURN TACTICS

THE TWO BEST PASSING LINES ON A STANDARD 180 DEGREE BERM:

1. BLOCK PASS or INSIDE SWOOP
2. OUTSIDE SWOOP



BMX BICYCLE SET-UP

As a BMX coach, you may be required to assist BMX competitors in setting up their bike for competition. In this chapter we'll look at some areas where adjustment may be necessary, and provide you with information to assist in setting up the rider's bike correctly.

Getting Started

Before our new BMX rider with their brand new BMX bike from the local bike shop can compete they will need to remove a number of items, including reflectors, brackets, chain guard, etc. Having now removed a few items we need to add some padding which covers the stem, brace bar on the handlebars and the top frame of the bicycle.

Now that our rider has satisfied the safety requirements we can look further into the set-up of the rider's bike. Whether the rider is a brand new beginner or a seasoned BMX racer you can still provide assistance in setting up their machine for battle.

Frame Sizing

Making sure the rider is using the correct frame size is very important. Too small a frame and the rider will be cramped; too large a frame and the rider will be stretched out and unable to control the bike effectively. The table below, courtesy of Dan's Competition, lists frame sizing along with stem and bar sizing for riders of certain heights. This table could be used to assist you in determining if a rider is on the correct sized frame. The coach's visual skills should also be utilized when determining correct frame sizing.

RIDER SIZING

RIDER HEIGHT	FRAME SIZE	STEM LENGTH	BAR RISE	BAR WIDTH
4' 0" and under	Micro-Mini	Mini	2" - 2½"	20" - 22"
4'0" - 4'6"	Mini	Mini-Mini XL	2" - 3 1/2"	21" - 23"
4'4" - 4' 10"	Junior	Mini XL-Pro	3" - 5"	22" - 25"
4'8" - 5'4"	Expert	Pro	5" - 7"	25" - 27"
5'4" - 5'10"	Pro	Pro-Pro XL	7" - 8"	27" - 28"
5' 10" and over	ProXL-XXL	ProXL-XXL	7" - 8"	28"

© Dans Competition, Inc. All Rights Reserved.

Crank Length

The rider's crank length plays a very important role in BMX, as crank length gives the rider leverage for power and ultimately speed. The longer the crank the longer the lever and thus the better tool for accelerating quickly. However if a rider uses cranks which are too long for their legs they will be unable to 'spin' the cranks quickly enough, which will lower their maximum speed.

Therefore the correct crank length for a rider will provide both good acceleration and the ability to be spun at high speed. The table below may be of assistance in determining the correct crank length for a rider.

- Watch your riders pedal down a straight from behind, and if their hips move up and down whilst pedaling it's probably safe to say that their cranks are too long. Also when pedaling they will look like they are 'stepping' and not spinning in a fluid motion.
- A rider with cranks that are too short for them will appear to be pedaling with only the lower portion of their legs and not utilizing the full potential of their quadriceps.

CRANK SIZING

RIDER INSEAM	CRANK LENGTH
20"	140mm
21"	145mm
22"	150mm
23"	155mm
24"	160mm
25"	165mm
26"	166mm
27"	171mm
28"	175mm
29"	177mm
30"	180mm
31"	182mm
32"	185mm
34"	190mm

Gearing

The BMX racer's gearing plays a vital part of their performance in BMX competition. Gear ratios can be changed by altering the amount of teeth on the front chainwheel, or on the rear sprocket. The higher the number of teeth on the front chainwheel the harder or higher the ratio, and also the lower the number of teeth on the rear sprocket the harder or higher the ratio.

By changing only the front chainwheel from a 43 to a 44 and leaving the back sprocket as a 16 tooth we have raised the gearing by one tooth. However when we start changing rear sprocket sizes we are altering the gearing in a different way. By lowering a rear sprocket from, lets say a 16 to a 15, we will in effect be doing the same as raising the front chainwheel by approximately two and a half teeth. As you can see this would be the process used to obtain a gear ratio of half a tooth difference.

Note: Two different gear combinations can produce an equivalent ratio, however in fact these ratios will perform quite differently. For example using a 20 X 1.75 wheel and tire combination:

A gear combination of 46 x 16 will produce a ratio of 56.1

A gear combination of 43 x 15 will produce a ratio of 55.9

However the gear with the smaller cogs, both front and rear will be easier for the rider to accelerate and won't have the same top-end as the 46 - 16. The reason for this is the smaller cogs will give the rider more leverage, as in effect their lever (read cranks) will perform as a longer crank as compared to the other gear combination. Using this knowledge can be quite useful in obtaining the correct gear ratio for an individual rider.

The coach should in essence gear their rider with a suitable gearing to get them to the first corner in the quickest possible time. It can be said that the first straight of a BMX race is approximately 75% of the race, thus the coach should gear their riders accordingly. It is much easier to win a BMX race from the front as compared to mid-field or the back of the pack.

Different riders will be better suited to different gearings, and it is the coach's job to ensure that each of their riders has the best possible gear ratio to suit their individual attributes.

Chain Tension

One of the most important bicycle maintenance areas is that of chain tension. A chain which has insufficient tension is likely to jump off under hard acceleration, and a chain which has too much tension placed on it will increase the load and resistance associated with pedaling.

The chain tension can easily be adjusted by moving one side (or both) of the rear axle either forward or back in the drop-out. Care should be taken to ensure that the wheel is positioned straight in the bike frame when achieving correct chain tension.

Chain tensioner devices are available and these serve two purposes. They can be used to easily adjust correct chain tension whilst ensuring the wheel is positioned straight; as well as they ensure the wheel cannot move forward during acceleration which could cause the chain to lose tension and jump off.

Brakes

Once the correct chain tension and rear wheel positioning has been obtained the brakes should be adjusted to suit.

Firstly, the brake pads should be adjusted so that the full surface area of the pad comes in contact with the braking surface. The pads can be 'toed-in' slightly, which will aid in braking performance and can also reduce brake squealing. It is important to ensure that brake pads, or essentially the brake-arms, are positioned an equal distance from the rim surface to maintain optimum braking power.

The brake efficiency and "feel" is adjusted with the spacing between the brake pads and the rim surface. Ideally for the brakes to feel responsive the pads should be positioned close to the rim surface to take full advantage of the brake-arms leverage. Take care that the rim does not touch the brake pads whilst rotating, thus causing unwanted resistance to the rider. It is essential that the rear wheel be true and straight to assist in the brake set-up procedure.

All cable slack should be taken from the brake lever and calipers thus ensuring a responsive feel. Also both the braking surfaces should be clean and free from oily substances which would minimize the brakes efficiency.

Handlebar Width and Height

Correct handlebar height and width is a very important set-up area of the BMX rider's bicycle, as bike control and maneuverability is largely related to this area.

The correct handlebar width for a rider will generally be slightly wider than the particular rider's shoulder width. Bars which are too wide or too narrow will not allow the rider to pull on the bars in the most efficient way, and will also make turning corners more difficult and cumbersome than it should. A rider with wide handlebars could find pack riding more difficult, both in fitting between riders and also maintaining balance when bumping and rubbing elbows.

Handlebar height will vary for BMX competitors and is largely related to the height of the rider. A general rule in setting handlebar height is that the top of the handlebar grip should be in close proximity to the rider's hip bone when standing beside their bicycle.

Once again placing the handlebars too high or too low will not allow the rider to make use of all their power and could also make handling more difficult. Handlebar height can be adjusted in two ways:

- By the handlebar rise of the selected bars
- By lowering or raising the head-stem (in the case of conventional headsets); or
- By placing more or fewer spacers either above or below the head-stem (in the case of Ahead headsets).

Handlebar Positioning

The positioning of the rider's handlebars is also an important procedure in obtaining the best possible handlebar set-up. The handlebars should be positioned in a vertical or slightly back from vertical position (when viewed from the side). This will give the rider both good pulling power on the bars and also good bike control. The coach should keep in mind that the rider will have slightly better bike control with the bars laid back slightly, however they shouldn't be positioned too far back so as to lose pulling power on the bars.

Should the rider require the bars in a position which differs greatly from this then they should look into possibly changing their head-stem length or should this not correct the problem then obviously the rider's current frame size needs to be inspected.

Seat Height

The correct positioning of seat height should allow for the rider to lean against their seat with their knees while in the standing position. The rider will use this leaning on the seat with their knees /inner thigh when leaning the bike through turns and possibly may lean on the seat when balancing on the gate. The rider will be required to move their bodyweight directly over the rear of the bike during the course of a race and should the seat be positioned too high then this may not be possible. As a result the rider will be forced into an incorrect body position and could fall as a result.

Tire Pressure and Sizing

The riders tires are an important bicycle component and as they provide the contact point with the tracks surface, their tread level and condition is quite important.

Q. "What's the correct wheel and tire size for a rider"?

A. A rider should use the narrowest wheel and tire combination possible, which still enables them to have ample traction throughout a BMX race (at the start, when pedaling and in turns).

Keeping this in mind a rider may require a larger tire on the front to assist with cornering, as opposed to a smaller tire on the rear which would still provide ample traction.

WHEEL SIZING

MAXIMUM WEIGHT		RIM WIDTH
LBS	KGS	
0- 85 LBS	0 -38 KGS	Sew Ups
85 –100LBS	38 -45 KGS	20 X 1 1/8"
100 -120 LBS	45 -55 KGS	20 X 1 3/8"
120-150 LBS	55 -68 KGS	20 X 1.50"
150 LBS +	68 KGS+	20 X 1.75"

© Dans Competition, Inc. All Rights Reserved.

The correct tire pressure for each rider will vary depending on their actual weight/height and their riding characteristics. However it should be kept in mind that a tire pressure which is too low will create unwanted drag and resistance. It could be considered normal practice to have a slightly lower tire pressure in the front wheel over the rear to allow for more rubber to grip the ground when encountering turns.

The rider and coach should experiment with tire pressures to obtain the best combination for the rider, keeping in mind that this combination may change as track surfaces change from one track to another.

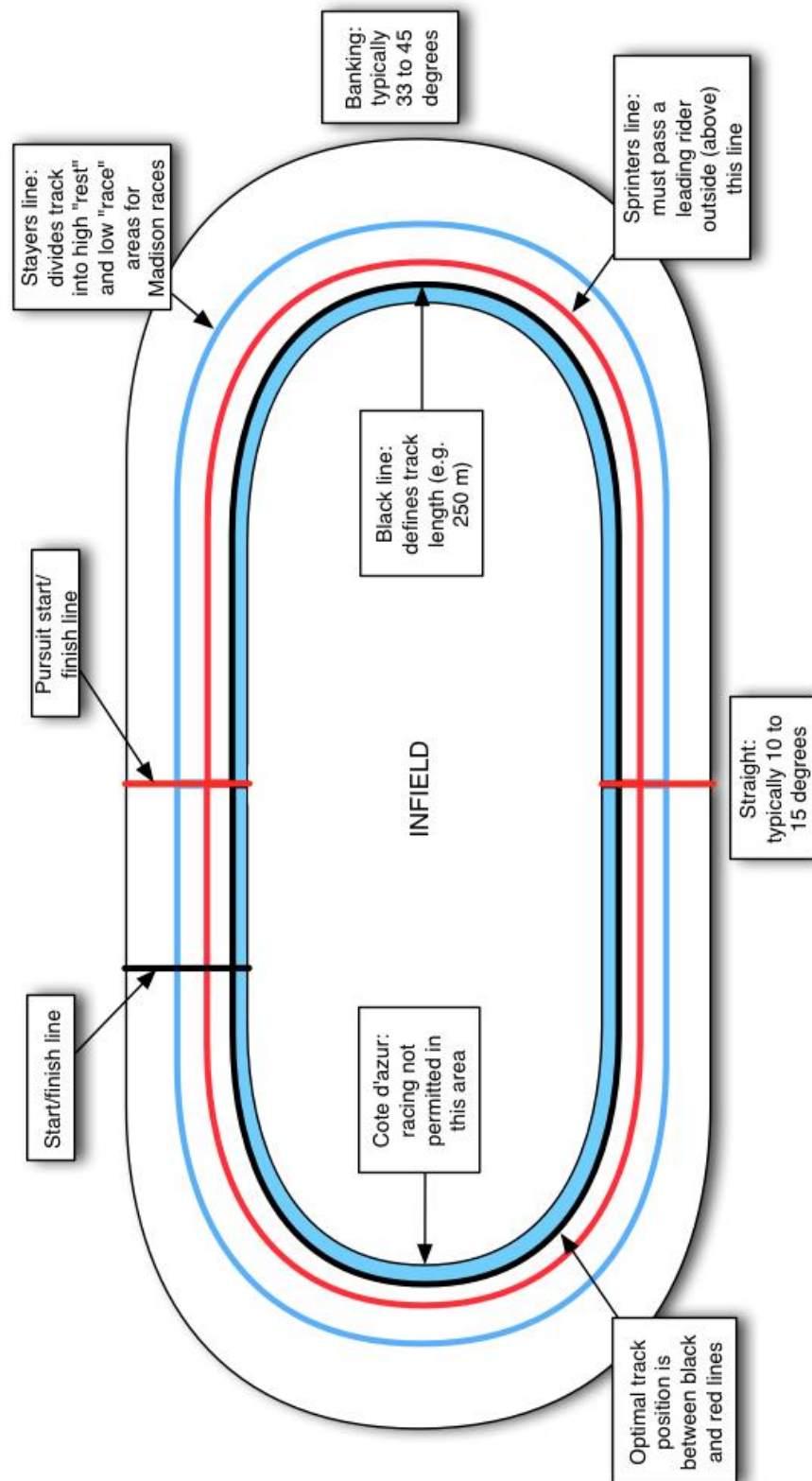
Some basic tire pressures guidelines that you could use as a starting point are;

1 1/8" wheel and tire: 55 - 80 PSI

1 3/8" wheel and tire: 45 -70 PSI

1.75" wheel and tire: 45 -70 PSI

TRACK:



TRACK: Creating and Calling a Schedule

Objective: To create a schedule, and help the cyclist learn to ride to a schedule, to assist the cyclist to develop pacing skills. A schedule is a tactical aid for riding a pursuit.

Creating the Schedule: A number of schedule calculators are available. One can be found at: http://www.fixedgearfever.com/modules.php?name=Downloads&d_op=getit&lid=6 (We believe this is public domain- use at your own risk.)

The variables in a schedule are:

- *Size of track* in meters (e.g. 250 m)
- *Number of laps* per event (e.g. 3000 m pursuit/250 m track = 12 laps)
- *Start differential*, which is the extra time needed to accelerate on the first lap, usually in the range of 5 to 10 seconds. Assess this by timing two laps from a standing start; the difference between first lap time and second lap time is the start differential. For this example we will use 6 seconds.
- *Average lap time* based on the cyclist's pursuit time in training, minus the start differential: e.g. 3 minutes 55 seconds = 235 seconds, subtract 6 seconds start differential = 229 seconds, divided by 12 laps = 19.1 seconds average lap time.

The final step is to add the start differential to the first lap time ($19.1 + 6 = 25.1$ seconds for the above example) and then complete the schedule, adding the average lap time to the first lap for each lap:

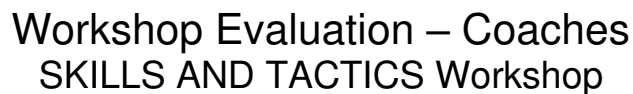
Lap #	Time
1	25.1
2	44.2
3	1:03.2
4	1:22.3
5	1:41.4
6	2:00.5
7	2:19.6
8	2:38.7
9	2:57.7
10	3:16.8
11	3:35.9
12	3:55.0

Calling the Schedule: The coach stands at the pursuit start line. If the cyclist is riding faster than the schedule, walk toward the cyclist a few steps and if necessary signal the rider to slow. If the rider is behind schedule walk past the pursuit start line, that is, away from the rider as s/he comes toward you. This provides a visual cue of how much ahead of or behind schedule the rider is.

Workshop Wrap-up and Evaluation

1. Take a few minutes to share ideas of what you learned and exchange contact information.
2. Please complete a workshop evaluation form; your feedback is important.

Cycling Canada and the National Coaching Certification Program thank you for the time you dedicate to coaching. Your efforts make a difference in the lives of those you coach. Congratulations on completing the workshop!



Location:

Please tell us a bit about your coaching:

What age of participants will you be coaching? _____

How many participants will you be coaching? _____

How long is their competitive season? _____

How many times a week do they compete? _____

How many times a week do they practice? _____

How long are the practices (in hours/minutes)? _____

Have you coached before? If so, for how long, with what age group, and in what sport?

Please answer the following:

Having taken this workshop, I now have a better understanding of my tasks and responsibilities as a coach

1 2 3 4 5

Strongly disagree Strongly agree

Having taken this workshop, I now have a clear understanding of how the sport is modified for athletes at different stages of development

1 2 3 4 5
Strongly disagree Strongly agree

I can respond to an ethical situation in a way that is consistent with the NCCP values and philosophy

1 2 3 4 5

Strongly disagree Strongly agree

NEXT ...

I can adapt a practice if required to do so, and understand the structure of a complete practice

1	2	3	4	5
Strongly disagree				Strongly agree

I can organize and run the activities within a practice in a way that is suitable for my athletes

1	2	3	4	5
Strongly disagree				Strongly agree

I can deal with the safety aspects of a practice

1	2	3	4	5
Strongly disagree				Strongly agree

I can do a better coaching job

1	2	3	4	5
Strongly disagree				Strongly agree

During this workshop I had several opportunities to work on finding solutions to situations that are relevant to my coaching

1	2	3	4	5
Strongly disagree				Strongly agree

During this workshop I had several opportunities to exchange with and learn from others

1	2	3	4	5
Strongly disagree				Strongly agree

I found the *Workbook* and *Reference Material* to be relevant to my coaching needs, clear, and to contain useful information

1	2	3	4	5
Strongly disagree				Strongly agree

I found the *Workbook* and *Reference Material* to be organized clearly and logically and easy to use

1	2	3	4	5
Strongly disagree				Strongly agree

I would recommend this workshop to other coaches I know

1	2	3	4	5
Strongly disagree				Strongly agree

Please answer the following questions:

Would there be anything you would like to see added to this workshop? If so, what would it be?

Would you be interested in attending another workshop for community coaches? If so, what would you like to see included in the next workshop you attend?

Are there any other comments you wish to add?

Thank you for your feedback, and best wishes in your coaching

www.coach.ca

www.cyclingcanada.ca