National Coaching Certification Program

NCCP COMPETITION INTRODUCTION: LEARN TO TRAIN

REFERENCE MATERIAL

CANADA BASKETBALL

National Coaching Certification Program

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.

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Canada

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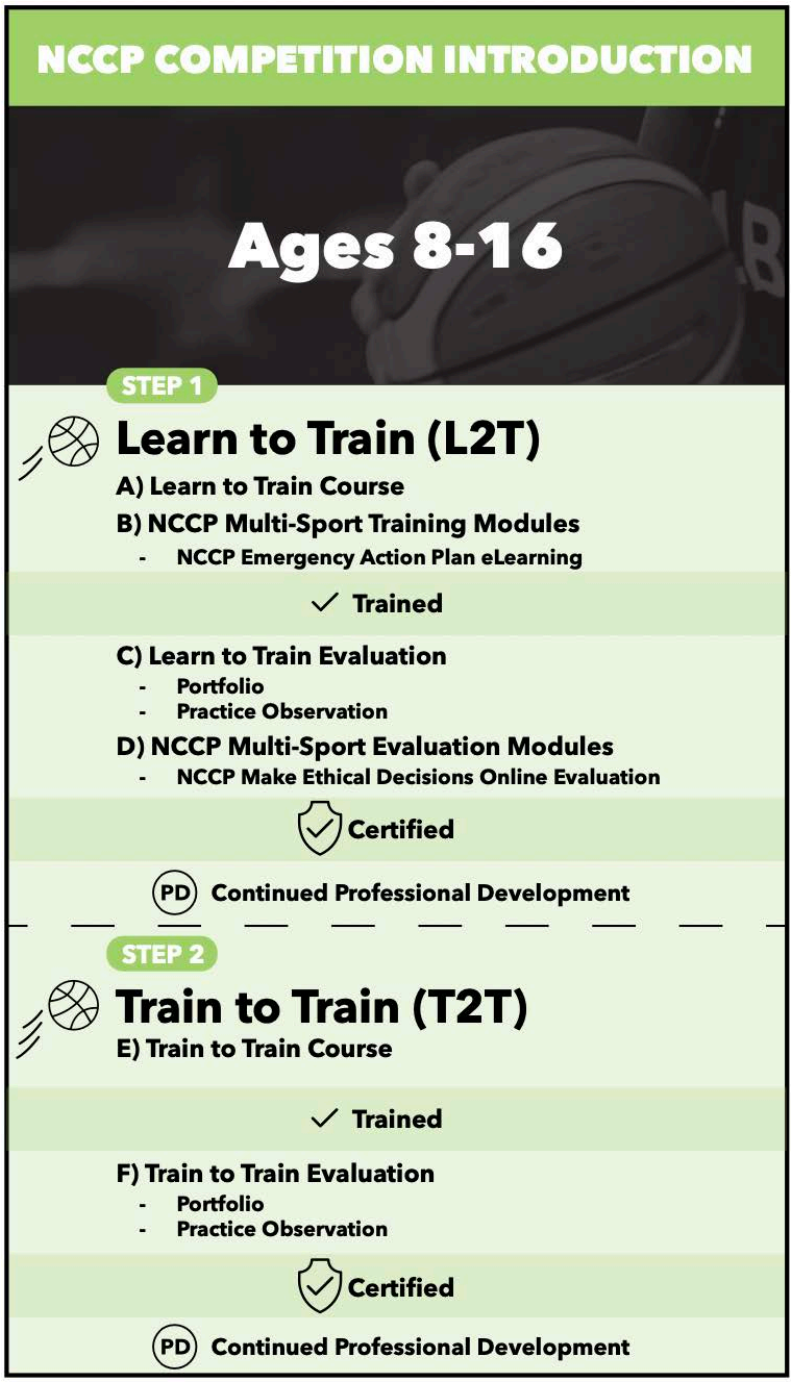
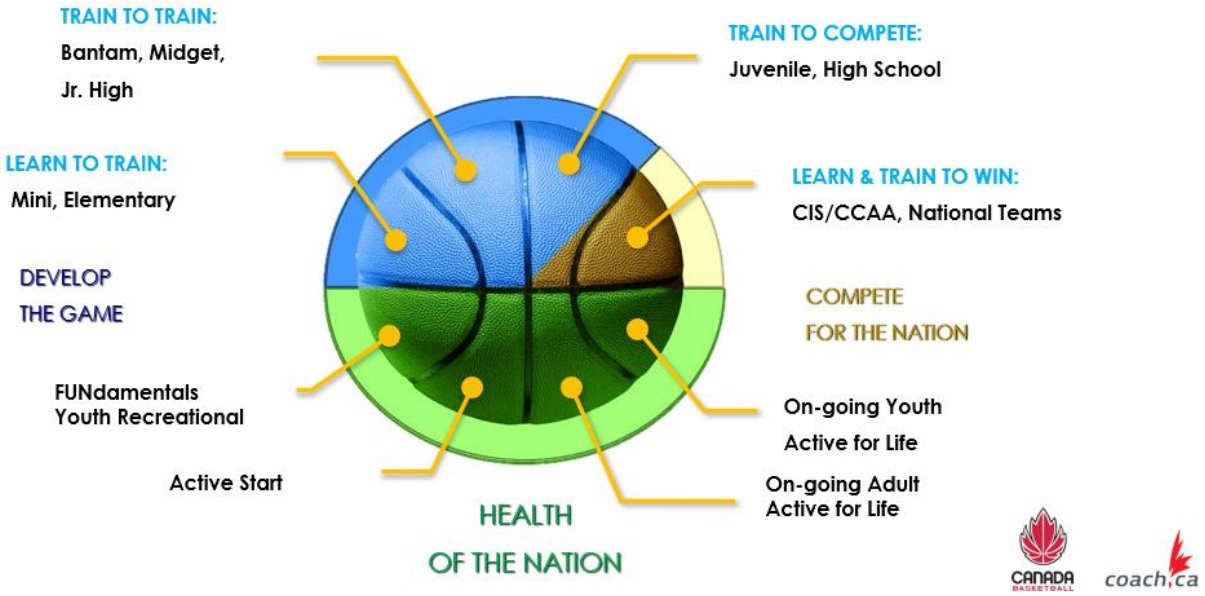
1.1 The Learn-to-Train coaching pathway



Source: Coaching Association of Canada & Canada Basketball, *Learn to Train – Reference Material*, Version 3.1, 2016.

1.2 Athlete development model



1.3 Long–term athlete development: Summary of physical literacy LTAD stages[1]

Active Start* (0-5) Is a vital part of a child's long-term development. Canada Basketball does not recommend any organized basketball activities for this age. Development should take place through play.

	FUNdamentals		Learn to Train
Basketball Phases	**Movement**	**Modified Games**	**Skills**
NCCP	**Community Sport Initiation**	**Community Sport Initiation Advanced**	**Introduction to Competition**
Age	5 - 7 years old	8 - 9 years old	10 - 11 years old
Aim	To learn *fundamental movement skills** through basketball in a positive, inclusive and fun way.	To learn the basic basketball skills through modified games while still emphasizing fundamental movement skills in a fun and inclusive environment.	To learn the basic basketball skills while still emphasizing fundamental movement skills in a fun all-inclusive environment.
Fundamental Movements	Pushing, pulling, bending, twisting, lunging, squatting and the gaits (walking, running, sprinting) 60% of teaching time is on movement Skills	Basketball skills are used as a way to teach fundamental movement skills. 30% of teaching time is on movement skills.	Since this is still an entry stage for many children it is imperative that the instructor ensure that each child still has these fundamental movement skills. 20% of time is used on movement skills.
Fundamental Basketball (the how and the why)	The main emphasis is on movement skills. Basketball skills are introduced by using simple "playground games". 20% of teaching time is on Basketball Skills	Ball handling, passing, receiving, and shooting. 40% of teaching time is on basketball skills.	Introduced the basic skills. Bilateral development global approach, everyone learns all skills and positions. 20% of teaching time is basketball fundamentals.
Technical (when)	Players learn when to shoot, pass or dribble. They also learn when to play offence and defence. 20% of	20% of teaching time is on individual player skills. When should I dribble or shoot?	30% of time is spent on individual skills. When should I dribble with my left hand/right hand? 20% of time is spent on multi-player skills.

[1] Source: Coaching Association of Canada & Canada Basketball, Learn to Train – Reference Material – Plan a Practice Module, Version 3.1, pages 49-55.

	teaching time is on individual decision making skills.	10% of teaching time on multi-player skills. When should I pass?	When should I cut to get the ball?
Strategy	The players use a simple game that progressively teaches them a modified game of basketball.	Players play equal time in modified games* with modified rules. The major emphasis is to learn the basic principles of the game.	Players participate equally in controlled games designed to enhance skill development. Players learn a basic awareness of offence and defence. 10% of the time is spent on basic offence / defence.
Tactical	Does not apply.		Many short term adjustments are made to enhance the learning of the skills of the game and to allow the players to cooperate in a competitive environment. Tactics are not for a coach to win the game by taking advantages of the child's level of play.
Decision Making	Making decisions involving the ball (when a player has the ball or does not have the ball).		Making decisions using the basic skills of play.
Periodization	Not applicable. A single season. Recommended of one, one-hour sport specific session per week.		Single periodization. Maximum of two sport specific session per week.
Length of Program	6 - 12 weeks		12- 20 weeks
Training to Competition	Fundamental movement skills are taught through basketball activities and modified games that occur in the same session. Competition and results are not a priority. Base games such as 1 on 1, 2 on 2, 3 on 3 and 4 on 4 are to be used at this stage. Players receive more touches on the ball and therefore more opportunities to apply their skills and decisions.		For every minute of game time three minutes will be spent on skill development. This will enhance the experience of playing the game. 75% of the time devoted to training 25% spent in games (not competition).
Physical	Fundamental movement skills - moving in all planes of the body Agility, balance, coordination, throwing, catching, linear and lateral speed Running, jumping, stopping, starting Introduction to simple recovery techniques		Continue with fundamental movement skills Own body weight exercises for strength Basic flexibility

		Expanded recovery
	Avoid activities that emphasize: Aerobic stamina (prolonged effort), Speed endurance (interval training) Strength endurance (anaerobic training) Maximal strength (non-weight bearing lifting) and power exercises (bounding)	
Mental / Emotional	The object is to produce self-confident athletes who have the mental and emotional skills needed to meet the demands of their sport context and daily life.	
	Confidence - Focus on building *self -confidence** and *self-esteem** through having fun through basketball. **Concentration** - Focus on giving your eyes and ears when people speak **Goal setting** - Use of imagination, introduction to debrief **Social support system** - helping parents understand their role **Enjoyment** - keep it fun **Competition management** - encouraging cooperation	Continue to build on the elements introduced in the FUNdamental stage. Focus on building confidence through the skills of the game. Self-confidence, Focus and concentration, Debrief, Imagery, Introduction to goal setting
Social / Life lessons	Focus on multi-activity participation. **Leadership** - Learn to cooperate **Responsibility** - Learn to follow directions **Self - Reliance** - Play at home **Communication** - developing relationships **Trust**	Continue to build on the elements introduced in the FUNdamental stage. Introduction to relaxation Multi sport involvement

Elite Pathways: Develop the Game

LTAD Stage	Train to Train	Train to Compete
Basketball Phase	**Train**	**Compete**
NCCP	Introduction to Competition	Competition Development
Age	11-15 girls 12-16 boys	15-19 girls 16-20 boys
Aim	To introduce the basic technical and strategic parts of "global" basketball with a more structured approach to training.	To introduced athletes to all aspects of the game, and begin to refine all technical aspect and most strategic components.

Fundamental Movements	25% of the time in instruction should be used to warm up using the fundamental movement and basketball skills. Players should be taking the basic skills into a stage of refinement. They will also be introduced to more complex variations of the skill. Note that some players may still be introduced to the sport at this stage. Players may be at different stages of their own personal skill development.	20 % of instructional time is spent here. Work is done on refining the skills and in warming up. The players should be able to perform the basic skills in a competitive environment. Begin to develop a more individualized skill package.
Fundamental Basketball		
Technical	30% of instructional time is on introduction, acquisition of new skills and refinement of old. Some should become creative. A major emphasis is on learning to "read" on defence and offence.	40 % of the time is spent on the acquisition and consolidation of specialized skills, refinement and creative of the basic technical skills.
Strategy	To use the basic skills for all positions in a competitive environment. Players learn basic team maneuvers that involve multi-player and multi-positional play. 30% of instructional time is spent here. Basic offences and defences should be consolidated and refined before introducing more complex strategies such as zones and presses.	40 % Of the time is spent here. Acquisition and consolidation of specialized strategies, refinement and creative of the basic strategies. Players are exposed to an expanding array of team maneuvers and an increased knowledge of positional movement.
Tactical	Simple reminders about the strengths and weaknesses of an opponent. Only 15% of the time should be spent here. Use drills assist players in understanding an opponent's main strengths / weaknesses.	20% of the time is spent on competition specific tactics.
Decision Making	Making decisions involving other players.	Making decisions involving game situations
Periodization	In phase one of this level single periodization with a general prep, and specific preparatory stage. Double periodization can occur in the later stages of this phase.	This phase can be a single, double and in elite situations triple periodization.
	Note: In double and triple periodization the total volume of the program should not exceed the number of weeks recommended in the length of the program. Also the athletes must be allowed a proper transition. Frequent rest will be required.	
Length of Program	20 - 35 weeks	35 - 45 weeks
Training for Competition	For every game there needs to be one-hour minimum of training. Games for learning vs. games for competition. The ratio of 75% training and 25 % competition is still applicable.	Competition becomes more important and training takes on a more competitive nature. 40% of training is devoted to technical and tactical skills and fitness. 60% is devoted to competition and competition specific training.

	Note: The onset of PHV* is a key marker in the physical maturity of an athlete. Coaches must be aware that this is not age specific and that training must be individualized to meet the athletes needs not the convenience of the group.	
Physical	Fine tune the fundamental movement skills. Flexibility training Strength training continued medicine ball, Swiss ball and body weight for strength. Core strength is key. Note: During PHV coaches must be aware of limitations. Recovery techniques	Develop the aerobic and anaerobic systems in sport specific context. Individualized conditioning Strength and power training. Develop proper technique first. Recovery techniques
Mental / Emotional	Focus on building confidence through the skills of the game and developing good training routines. Self-confidence focus and concentration, Debrief, Imagery, Goal setting, Relaxation, Developing routines.	Build confidence and introduce the athlete to the mental skills required for competition. Self-confidence, Focus and concentration, Debrief, Imagery, Goal setting, Anxiety management, Routines, Distraction plans.
Social / Life lessons	Multi-sport involvement, General and specific training, Self-directed practice, Introduction to planning and periodization, Training and performance diary/log (time management), Nutrition /hydration, Basic leadership skills, Fitting sport into life, Relationships, Lifestyle choices (high risk behaviours).	Sport specific training, Integrated sport into lifestyle, Dealing with being an athlete, Self-directed practice, Injury prevention and recovery, Nutrition / hydration, Life balance, coping with pressures, Career/sport planning sustained, Leadership, Planning and periodization of training, Relationships, Lifestyle choices (high risk behaviours).

Elite Pathways: Compete for the Nation

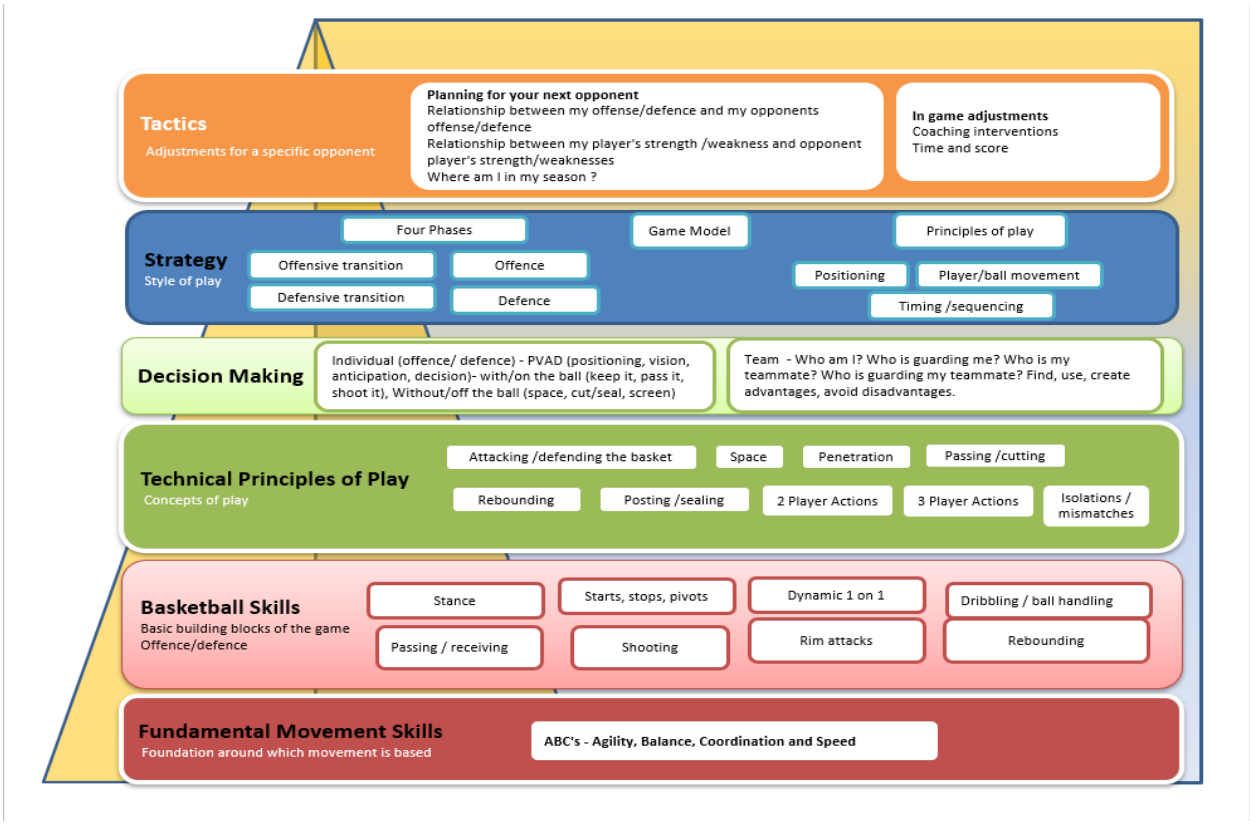
LTAD Stage	**Learn to Win**	**Train to Win**
Basketball Phase	**Learn**	**Win**
NCCP	High Performance	High Performance
Age	19- 22 female 20 -23 + male	23+ female 24 + male
Aim	To establish all of the technical, strategic, physical, mental and ancillary skills and capacities needed to compete at the highest level.	To optimize performance for domestic and international competition.

Fundamental Movements/ Basketball	15% - warm up and refinement. Specialized skills for individual performance in a competitive environment.	10% - Warm up and refinement. Complete refinement of sport-specific skills
Technical	20% - refinement and creative	10% - refinement and creative
Strategy	40% - introduced to all strategies and consolidation. Players develop a complete set of offensive and defensive strategies and specific play situations.	40% - refinement - creative Players utilize strategies to maximize the performance and strengths of the team.
Tactical	25% - competition specific	40% - opponent specific
Decision Making	Making complex decisions in game situations	Mastering decision making in high pressure competitive situations.
Periodization	Triple or multiple periodization: frequent recovery breaks.	Triple or multiple periodization: frequent recovery breaks.
	Note: In double and triple periodization the total volume of the program should not exceed the number of weeks recommended in the length of the program. Also the athletes must be allowed a proper transition. Frequent rest will be required.	
Length of Program	45-50 weeks	45-50 weeks
Training to Competition	75% of the time is spent on sport specific preparation and participation in competitions.	75% of the time is spent on sport specific preparation and participation in competitions.
Physical	Specific training to achieve optimum performance. High volume and high intensity of training. Recovery techniques	
Mental / Emotional	Develop confidence and individualized mental / emotional training plans.	Well-developed refined and individualized mental skills and routines that are proven to work in competition.
Social / Life lessons	School - work - sport balance Career/sport planning sustained Self -directed practice Relationship decisions (family) Lifestyle choices (high risk behaviours)	Sport - work-life priorities Dealing with transition college /work Professional priorities Relationships Lifestyle choices (high risk behaviours)

Recreational Pathways: Active for Life

LTAD Stage	Retirement/Retainment	Health of the Nation
Age	Individually determined	Individually determined
NCCP	Community Sport On Going	Community Sport On Going
Aim	To enjoy a healthy active lifestyle and reinvest time and energy in basketball, through coaching , management or administration, officiating and active participation.	To find fun, fitness, social interaction and self-fulfillment through a level of basketball suitable to the participant in an all-inclusive environment.
Fundamental Movements/ Basketball	Movement skills are used to maintain healthy lifestyle. Retainment of basic basketball skills to be used at an appropriate level and a transfer of knowledge into new roles.	Movement skills are used to maintain healthy lifestyle. Retainment and refinement of skills needed to play at the appropriate level.
Technical	Maintain and improve skills through appropriate competitive experiences. This knowledge is used in other areas of his/ her life.	Maintain and improve skills through appropriate competitive experiences.
Strategy	Retainment of strategic knowledge to be used at an appropriate level and a transfer of knowledge into new roles.	Players retain the strategies necessary for recreational involvement.
Tactical	Tactical knowledge gained from playing experience is used in other roles.	Used when appropriate for recreational play.
Decision Making	Retainment of basic decision making skills that will now be used or transferred into new roles.	Adapting your decision making skills to the appropriate level of play.
Periodization	Information gained as an athlete is now transferred to into new roles.	To meet the individual needs of the participant.
Length of Program	Information gained as an athlete is now transferred to into new roles.	To meet the individual needs of the participant.
Training to Competition	Information gained as an athlete is now transferred to into new roles.	Games are used for fitness, social interaction and developing and refining skills. Training is an individual decision or in preparation for competition.
Physical	Detraining principles followed	Keep active
Mental / Emotional	Readjustment to non-competitive environment. Transfer knowledge to other roles.	Using the mental / emotional skills acquired through sport in recreational and lifetime activities. Positive self-expression
Social / Life lessons	Redefine and pursue personal goals. Pursue further education/career development. Moving into other roles in the game. Role model. Redefine Relationships	Role of physical activity in life. Activity as a means to social and emotional balance.

1.4 The coaching pyramid



1.5 The profile of my athletes

1.5.1 Developmental considerations

Certain changes occur as children grow and develop. These changes can also be called stages of development and they affect every aspect of life and sport. Stages of physical development influence the ability to perform skills. Stages of emotional development affect the kind of cooperation or competition that individuals are capable of.

In general, there aren't major developmental differences between boys and girls before puberty. However, during adolescence, performance capabilities become increasingly different in some areas. As a coach, you need to know how such changes may affect performance in sport.

1.5.2 Puberty

Puberty is the time of life when important transformations occur that affect the body and mind. During this time, adult sexual characteristics develop. Here are some key points about puberty:

- ❑ It's a period of rapid change in several areas (growth, motor development, interests, relations with others).
- ❑ Individuals go through predictable phases of puberty.
- ❑ The amount of time in each phase isn't predictable. That unpredictability means that at a given age there can be a lot of variability among individuals.

When does puberty begin?

Puberty's onset is highly variable, although as a rule it occurs earlier for females than males. For each gender, puberty may begin at a wide range of ages.

- ❑ Males: Puberty begins on average at 12.5 to 13 years of age. However, it may begin 2 years earlier or later for about 25 to 30% of individuals. In some cases, puberty may even begin 4 years earlier or later.
- ❑ Females: Puberty begins on average at 11 to 11.5 years of age. However, it may begin 1 to 1.5 years earlier or later for about 25 to 30% of individuals. In some cases, puberty may even begin 2 to 2.5 years earlier or later.

How long does puberty last?

On average, puberty lasts 4 years for both males and females. Again, there can be a high degree of variability. For about 25 to 30% of individuals, puberty may be 1 to 1.5 years longer or shorter than the average. In some cases, puberty may last even longer.

Why is this information important to the coach?

When it comes to puberty, there will be early developers and late developers. Participants of the same age aren't all at the same stage of development.

Some participants reach puberty at a very young age (early developers), which may give them an advantage for a short period of time when they train or compete against others of the same age. Other participants (late developers) won't enter puberty until a few years later.

Athletic success at the adult level isn't determined by how early individuals reached puberty or how quickly they went through puberty. Many late developers may become very good athletes. Michael Jordan, one of the best basketball players of all time, is a notable example of a late- developing athlete.

Adapting activities during adolescence

A given activity may be appropriate for training the athletic abilities of some participants, but not yet appropriate for others. Therefore, some activity characteristics (intensity, duration, practice conditions) may need to be adapted to meet the needs of some participants.

Coaches need to focus on adapting activities to the participant's developmental stage, to account for the differences between average participants and any early or late developers. These adaptations will provide each participant with an appropriate challenge and increase the likelihood that those participants will enjoy, succeed in and stay involved in sport.

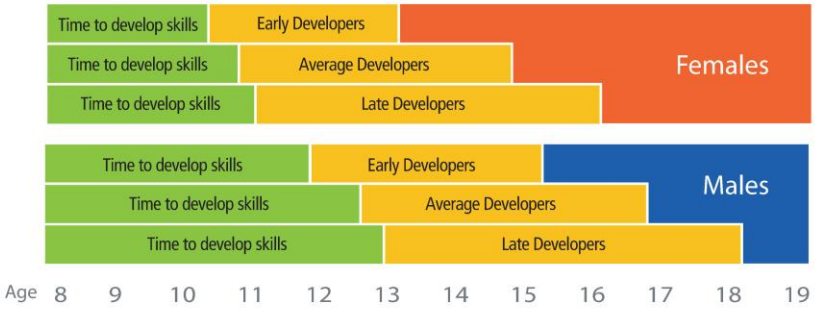
1.6 Physical literacy: Key to an active healthy life and to sporting excellence[2]

Developing Physical Literacy

A New Approach?

As a nation, we have to change the thinking of many groups that work with young children. Too many organizations think of children as a resource to be brought into their sport, and to be kept in that single sport for as long as possible – the "get them early and keep them" approach. This "get them and keep them" approach restricts the range of physical literacy skills that children develop, diminishes their all-round athletic development, and stops too many children from experimenting with different sport – and finding the one that is just right for them. Long-term, both the sports and the children are hurt by this approach.

Figure 10 Children Who Enter Puberty Late Have Longer Time Period to Refine Fundamental Sport Skills



Physical Literacy – The Key to an Active Healthy Life and to Sporting Excellence

Being physically active is more important to health than just about any other part of life over which we have control. Recent research suggests that it is better for your health to be overweight and active than to be of normal weight and be inactive. For this reason alone it is critical that children develop the knowledge, skills and attitudes that give them the very best chance of staying active throughout their lives.

When a child has confidence in his or her ability to take part in recreational and sporting activities without fear of showing themselves up, the probability that they will join in is high; and if they enjoy the activity they will likely continue with it. A child's movement confidence develops gradually as they grow and learn, and the child is constantly comparing their own level of ability with the ability of the children with whom they play. Physically literate children who move with skillful purpose KNOW that they move well, and this confidence encourages them to try new and different activities without fear.

Physical literacy also provides a foundation from which sporting excellence can grow.

To develop the highest levels of sporting excellence in late specialization sports requires about 10 years of deliberate practice, and requires that the person first develop their athletic abilities and, only when these have been refined, specialize in sport specific techniques and skills.

All too often, early overspecialization in a single sport leads to a failure to become physically literate, to poorer ultimate performance than would otherwise be the case, and to injury, burnout and early retirement from sport.

Physical literacy is, therefore, the key both to developing habits of life-long physical activity for enjoyment and health, and to the development of athletes who have the strong foundation that will permit them to reach the highest levels of international sporting excellence – to become world-class athletes.

[2]Source: Canadian Sport for Life. *Developing physical literacy: A guide for parents of children ages 0 to 12.*

A New Approach?

Early vs. Late Developers

Adolescence is the period between childhood and becoming an adult. While both the start and end of this period are difficult to define, it is usually obvious when a youth is going through the many physical, psychological, social and sporting changes that accompany it.

Not all children enter adolescence at the same age, and it takes different children different lengths of time to complete the process. In general, children who enter adolescence early pass through it faster than those who start later, and whether you start early or late partially depends on your body shape. Stockier, more muscular children usually enter adolescence earlier than their peers who are thinner and leaner.

The whole process starts at about age 10-11 for girls, and about 2 years later for boys, usually takes 3 to 4 years to complete. This means that for girls aged 12, some will have almost completed the physical changes of puberty, while others have barely started. For boys the greatest range of development is found in 14 year olds.

Few sports understand the difficulties faced by early and late developers, and those difficulties are different for boys and girls. Because of this, in many Canadian sports there are disadvantages to being either an early or a late developer.

One advantage late developers should have is that they have a longer period of time between learning fundamental movement skills and the onset of adolescence (see Figure 10). This Learn to Train stage is a time when the human body is perfectly designed for the acquisition and refinement of sport skills, and the longer a child is in this stage, the better developed their skills can become.

The Challenge In Sport For Late and Early Developers

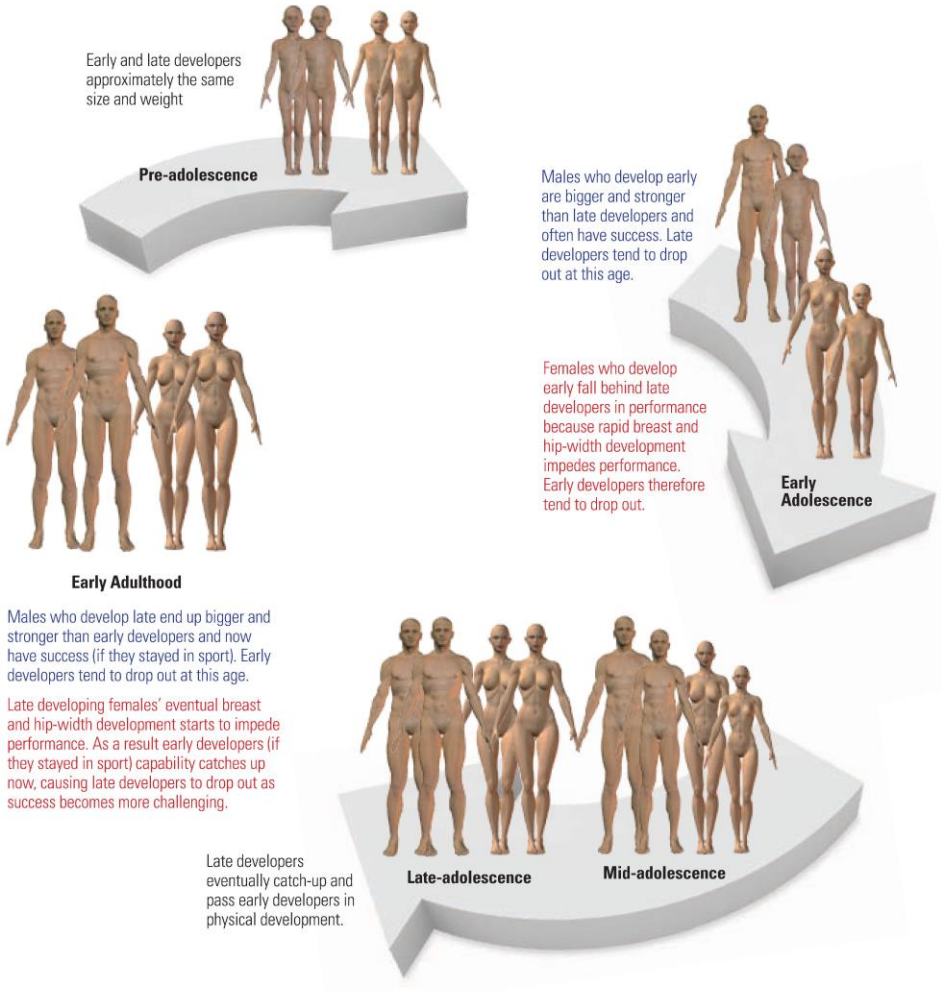
Males: In reality, male late developers are often at a great disadvantage, and this is especially true in sports where age group competitions are held. As their peers go through puberty, late developing males find themselves much smaller, less muscular and physically weaker. Training and competing against bigger, stronger and faster opponents is not always fun, particularly in contact sports, and late developers therefore tend to drop out – despite the fact that in the long run they have greater potential for success. There are also disadvantages of being an early developer. Early in adolescence early developers (who go through a relatively rapid but short adolescence) are bigger, stronger and faster than their peers and this often translates into sporting success. However, as late developing team mates and competitors go through their longer, more sustained, growth spurt those late developers eventually catch up with and surpass the early developers. With their late developing peers now bigger faster, stronger, and more skilled than them, the early developers tend to drop out of their sport towards the end of adolescence.

Females: For females the situation is less clear, but appears to be reversed. The rapid growth of breasts and the widening of hips, along with social pressures to discontinue sport invovlement, can cause early developing to drop out early in their teen years; while late developing females who have had success with their prepubescent bodies as teammates develop before them face the same difficulty when older.

Developing Physical Literacy

A New Approach?

Figure 11 Early and Late Maturing Children Drop Out of Sport at Different Times For Different Reasons



2 Training athletic abilities: Summary and key points

2.1 Activity requirements for athletic abilities

Athletic ability	Activity requirements
Speed	**All** of the following activities are required. ○ Movements or actions performed at maximal speed or near maximal speed ○ Movements or actions identical to those in which speed improvement is sought ○ Efforts of short duration (shorter than 5 to 8 seconds) ○ Long recovery between efforts (8 to 10 times longer than the effort itself) **Notes:** ○ Training is no longer effective when intensity or quality of execution decreases. ○ Total time for all repetitions = 30 seconds to 2 minutes
Speed-endurance	**All** of the following activities are required. ○ Movements or actions performed at near maximal speed ○ Movements or actions identical to those in which improvements in speed-endurance are sought ○ Efforts between 8 to 60 seconds ○ Recovery between efforts of 6 to 8 times longer than effort **Note:** ○ Total time for all repetitions = 2 to 6 minutes
Aerobic capacity (formerly endurance)	**Either** of the following activities is required. ○ High-intensity, steady-state efforts performed for 10 to 15 minutes or more ○ Moderate-intensity, steady-state efforts performed for 30 minutes or more
Aerobic power	**Either** of the following activities is required. ○ High-intensity intermittent efforts of 15 seconds to 2 to 3 minutes, followed by pauses of equal or shorter duration, for 20 to 30 minutes or more) ○ Repeated high-intensity dynamic efforts performed without interruption for more than 2 or 3 minutes each **Note:** ○ The more intense the efforts, the greater the training effect on maximum aerobic power.
Maximum strength	In many cases, the sport itself doesn't provide good opportunities to develop this athletic ability. See detailed guidelines in Section 2.2.5.

Athletic ability	Activity requirements
Power	**Either** of the following activities is required. ○ Movements or actions that require jumping, bounding or quick pushing ○ Movements or actions that require participants to accelerate objects as quickly as possible
Strength-endurance	**Either** of the following activities is required. ○ Repeated muscle contractions that are sustained for several seconds ○ Several submaximal muscle contractions performed consecutively at a constant rate
Flexibility	**Either** of the following activities is required. ○ Controlled movements of large amplitude ○ 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 involving a sequence of actions that must be performed in a given order **Note:** ○ Improvements are more likely to occur if the activity is performed when the participant is not tired.
Balance	**Either** of the following activities is required. ○ Activities where difficult or unusual positions must be assumed and maintained ○ Activities where normal movements are performed in unusual positions ○ Activities where balance is challenged by external factors or an effort is required to maintain balance
Tactics	**All** of the following activities are required. ○ Situations that are relevant to the competitive experience ○ Situations that involve decision-making in order to gain an advantage **Plus, 1** of the following activities is also required. ○ Situations that involve some degree of uncertainty ○ Situations where the best option must be selected

2.2 Training specific athletic abilities

2.2.1 Developing and maintaining speed

Variable	Speed	Speed of movement
Type of effort	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)
Mode/type of movement	As sport-specific as possible	As sport-specific as possible
Intensity	All-out, as fast as possible	As fast as possible
Length of a repetition	5 to 8 s	Generally, less than 1 s
Number of repetitions per set	4 to 5	4 to 5
Number of sets	2 to 4	2 to 4
Total number of repetitions	8 to 20	8 to 20
Length of recovery/repetition	60 to 75 s	10 to 15 s
Type of recovery/repetition	Active, very low intensity	Active, very low intensity, passive
Recovery between sets	Active, low intensity (5 to 6 min)	Active, low intensity (2 to 3 min)
Stop before, if …	Athlete can no longer maintain a high speed	Form of movement deteriorates speed of movement decreases
Minimum-maximum (min- max) length of protocol	16 min 40 s / 46 min 40 s	5 min / 16 min 20 s
Significant improvement by	4 to 6 weeks	4 to 6 weeks
Development	2 to 3 times per week	2 to 3 times per week
Maintenance	1 set, once per week	1 set, once per week

s = second(s) **min** = minute(s)

Guidelines for developing speed

- ❑ Activities must be dynamic (involve movement and changes of position) and be highly sport specific. The activities must also closely replicate the particular movements for which increased speed is desired (adaptations are very specific).
- ❑ Movements must be performed at maximal or near-maximal speed.
- ❑ For speed to remain high, each repetition must be relatively short (approximately 5 to 8 seconds).
- ❑ Rest between repetitions must be long enough to allow for sufficient recovery. This rest will enable the athlete to perform other repetitions at a high speed. Rest intervals can be as many as 12 to 15 times longer than work periods (example: 5 seconds of sprinting followed by 60 seconds of rest).
- ❑ Rest periods should consist of very light activity involving the muscles used during the work periods (example: a slow walk for athletes who are sprinting).
- ❑ The total number of repetitions must not be too high. Approximately 10 to 12 repetitions would be the norm, because speed tends to decrease afterwards due to fatigue. It's a good idea to divide repetitions into sets (example: 2 sets of 5 repetitions each).
- ❑ To avoid injury, athletes should be well warmed up before performing intense exercise.
- ❑ Activities aimed at improving speed should be scheduled at the beginning of the main part of the practice session, when athletes aren't tired yet.

2.2.2 Developing speed-endurance

Variable	Speed-endurance (short efforts)	Speed-endurance (long efforts)
Type of effort	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)
Mode/type of movement	As sport-specific as possible	As sport-specific as possible
Intensity	All-out	Controlled, but almost all-out
Length of a repetition	15 to 20 s	30 to 40 s
Number of repetitions per set	3 to 5	2 to 3
Number of sets	2 or 3	2 or 3
Total number of repetitions	6 to 15	6 to 9
Length of recovery/repetition	1 min 30 s to 2 min	2 to 3 min
Type of recovery/repetition	Active, very low intensity	Active, very low intensity
Recovery between sets	Active, low intensity (6 min)	Active, low intensity (6 to 8 min)
Stop earlier, if …	Athlete can no longer maintain a high speed	Athlete can no longer maintain a high speed
Minimum-maximum (min- max) length of protocol	19 min 30 s / 47 min	18 min / 48 min
Significant improvements in…	4 to 6 weeks	4 to 6 weeks
Development	2 to 3 times per week	2 to 3 times per week
Maintenance	1 set, once per week	1 set, once per week

s = second(s) **min** = minute(s)

Guidelines for developing speed-endurance

Note: The systematic development of speed-endurance is not recommended before participants reach puberty.

- ❑ Activities should be dynamic (that is, involve movement and changes of position) and be highly sport specific. They must also include the particular movements for which increased speed-endurance is desired (very specific adaptations).
- ❑ Movements must be performed at high speed, but slightly below maximum speed. Although it's high, the speed should also be controlled to make it possible to sustain the effort for between 10 seconds and 45 to 60 seconds, without any significant drop in intensity. For short efforts (example: 10 to 20 seconds), the controlled speed should be close to maximum speed. Conversely, if the effort is longer (example: more than 20 seconds), speed will have to decrease.
- ❑ Rest between repetitions must be long enough to allow for sufficient recovery. This will let the athlete perform other repetitions at a high speed. Rest intervals can be as much as 5 to 8 times longer than work periods. For example, 20 seconds of effort followed by 2 minutes of rest means that the rest period lasts 6 times longer than the work period of intense effort.
- ❑ Rest periods should consist of very light activity involving the muscles used during the work periods (example: jogging or walking after an intense run).
- ❑ For intense efforts lasting approximately 15 to 30 seconds, the total number of repetitions should be between 6 and 12. It's a good idea to divide the repetitions into sets (example: for 12 repetitions, divide them into 2 sets of 6 repetitions each).
- ❑ For intense efforts lasting approximately 30 to 45 seconds, the total number of repetitions should be between 4 and 8. Again, it's a good idea to divide the repetitions into sets (example: 2 sets of 4 repetitions each).
- ❑ It's also possible to develop speed-endurance in sport-specific situations. In such cases, alternate high-intensity efforts of approximately 30 to 45 seconds with longer, active recovery periods at a much lower intensity.
- ❑ To avoid injuries, participants should warm up well before engaging in intense efforts.
- ❑ Activities to develop speed-endurance should take place before the participants are tired.

2.2.3 Developing and maintaining aerobic capacity

Variable	Aerobic capacity (long efforts)
Type of effort	Continuous (no pauses during effort, fairly steady pace)
Mode/type of movement	Specific or involving the major muscle groups involved in the sport
Intensity	Submaximal, moderate
Length of a repetition	20 to 45 min, or more
Number of repetitions per set	1
Number of sets	1
Total number of repetitions	1
Length of recovery/repetition	Not applicable
Type of recovery/repetition	Not applicable
Recovery between sets	Not applicable
Stop before, if …	Athlete is tired
Minimum-maximum (min- max) length of protocol	20 to 45 min, or more
Significant improvements in …	6 to 8 weeks
Development	2 to 3 times per week
Maintenance	Once per week

s = second(s) **min** = minute(s)

2.2.4 Developing and maintaining aerobic power

Variable	Aerobic power (short efforts)	Aerobic power (long efforts)
Type of effort	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets)
Mode/type of movement	Specific or involving the major muscle groups involved in the sport	Specific or involving the major muscle groups involved in the sport
Intensity	○ Below maximum speed ○ Should correspond to highest speed that can be sustained for about 5 minutes ○ Maximal heart rate should be achieved after several repetitions	○ Below maximum speed ○ Should correspond to highest speed that can be sustained for about 6 to 8 minutes ○ Maximal heart rate should be achieved after a few repetitions
Length of a repetition	1 min	1 min to 8 min
Number of repetitions per set	4 to 6	3
Number of sets	2 to 3	2
Total number of repetitions	8 to 18	6
Length of recovery/repetition	1 min to 1 min 30 s	1 min 30 s to 2 min
Type of recovery/repetition	Active, low-moderate intensity	Active, low-moderate intensity
Recovery between sets	Active, low intensity (5 min)	Active, low intensity (5 to 8 min)
Stop before, if …	Intensity decreases too much	Intensity decreases too much
Minimum-maximum (min- max) length of protocol	24 min, 55 min 30 s	28 min, 44 min
Significant improvements in …	6 to 8 weeks	6 to 8 weeks
Development	2 to 3 times per week	2 to 3 times per week
Maintenance	1 set, once per week	1 set, once per week

s = second(s) **min** = minute(s)

Guidelines for developing stamina

Note: Stamina is a broad term that is sufficient for most sports. In endurance sports, however, the more specific terms aerobic power and aerobic capacity are used.

- ❑ The effort should be dynamic and involve large muscle masses (running, cycling, swimming, skating, …).
- ❑ The sport itself can also be used to develop aerobic power and/or endurance (example: soccer, basketball, volleyball, judo). However, it might be necessary in such cases to modify the normal competition conditions of the sport to achieve the desired training effect (see below).
- ❑ The effort must be sustained for a few minutes (3 to 5 minutes, often more). For most of that time, the participants have to be active (moving as much as possible).
- ❑ The speed of execution (that is, the intensity) can vary. However, it shouldn't be lower than what would be considered a moderate intensity for the participant's age.
- ❑ The same intensity or speed of execution may not be suitable for every participant. It's important to recognize that work intensity may have to be individualized.
- ❑ The activity or exercise can be continuous (without rest periods) or intermittent (alternating periods of work and recovery).
- ❑ Fatigue may occur during efforts of low to moderate intensity, because of longer duration (example: 30 minutes of cycling or 20 minutes of running).
- ❑ If efforts are intense, then active rest periods may be included between periods of activity. For example, after 2 minutes of effort, follow up with approximately 1 minute of less intense effort, and repeat/alternate for a total period of 15 minutes. Or, after 1 minute of effort, then follow up with approximately 30 seconds of rest, and repeat for a total period of about 10 minutes. This type of intermittent effort usually allows participants to maintain a relatively high intensity without causing too much fatigue.
- ❑ The same principles can apply to team sports, when participants are asked to play non- stop in a limited area for 5 to 10 minutes. In this type of activity, all participants must be moving at all times. Coaches should have extra equipment (balls, pucks, …) on hand. This keeps the level of activity high by minimizing any forced recovery periods because the control implement like a ball or puck gets lost in the middle of the activity's non-stop effort.

2.2.5 Developing and maintaining strength

Variable	Strength-endurance	Maximum strength
Type of effort	Intermittent (repetitions of intense efforts, followed by pauses, and grouped in sets) Alternate the muscle groups involved	Make a muscle or muscle group generate the highest level of tension during a maximum contraction, regardless of the contraction's duration.
Mode/type of movement	Tractions, pulling actions, extensions, flexions and more, using own body weight, free weights or machines	
Intensity	Submaximal Use body weight If free weights or machines are used, participant must be able to lift the load at least 10 times.	> 85% (1 RM)
Length of a repetition	3 to 4 s	3 to 4 s
Number of repetitions per set	10 to 15, or more	< 6
Number of sets per exercise	2 to 3	2 to 6
Number of different exercises	5 to 8	
Total number of repetitions	100 to 300, or more	
Length of recovery/repetition	Not applicable	
Type of recovery/repetition	Not applicable	
Recovery between sets	30 s to 1 min	2 to 5 min
Stop before, if …	Quality of execution decreases Marked fatigue occurs during execution	Quality of execution decreases Marked fatigue occurs during execution
Minimum-maximum (min- max) length of protocol	10 min; 32 min	
Significant improvements in…	4 to 5 weeks	

Variable	Strength-endurance	Maximum strength
Development	2 times per week	3 to 4 times per week
Maintenance	1 set per exercise, once per week	

s = second(s) **min** = minute(s)

Guidelines for developing strength

In most sports, it's difficult to achieve development of the various types of strength (maximum strength, power, strength-endurance) through the sport or activity itself. In addition, certain guidelines must be followed to avoid injuries, particularly among children and beginners.

Other NCCP workshops cover specific strength-development methods as well as particular safety measures that must be considered and implemented. The following considerations are provided for guidance, and they're aimed at young participants getting started in strength training.

- ❑ In general, exercises involve localized muscle masses. In most of these exercises, the resistance is provided by the participant's body weight or by relatively light weights.
- ❑ It's recommended that participants avoid heavy loads. Ensure that participants are able to perform at least 12 to 15 consecutive repetitions of each exercise. Under such conditions, strength-endurance becomes the primary ability trained.
- ❑ The speed of execution must be moderate and controlled. Participants must end the exercise when the quality of execution starts to deteriorate.
- ❑ It's possible to use jumping or hopping exercises. The speed of execution and muscle contraction are higher; therefore, these exercises will develop power (muscle power).
- ❑ Avoid exercises that could excessively overload the spine (compression stress).

While developing strength, aim for muscle balance. For instance, develop both the upper- and lower-body muscle groups, the muscles in front of and behind body segments, and muscles on both the right and left sides.

2.2.6 Developing and maintaining power

Variable	Power
Type of effort	Intermittent (repetitions of intense efforts followed by pauses, and grouped in sets) Alternate muscle groups involved
Mode/type of movement	Jumping, bounding, tractions, pulling actions, extensions Use own body weight, free weights or machines
Intensity	Speed of movement as fast as possible Submaximal Use of body weight If free weights or machines are used, participant must be able to lift load at least 15 times
Length of a repetition	Less than 1 s during the contraction phase of the muscle group
Number of repetitions per set	6 to 8
Number of sets per exercise	2 to 3
Number of different exercises	2 to 3
Total number of repetitions	24 to 72
Length of recovery/repetition	Not applicable
Type of recovery/repetition	Not applicable
Recovery between sets	30 s to 1 min
Stop before, if …	Quality of execution decreases Marked fatigue occurs during execution
Minimum-maximum (min-max) length of protocol	5 min; 10 min 30 s
Significant improvements in…	4 to 5 weeks
Development	2 times per week
Maintenance	1 set per exercise, once per week

s = second(s) **min** = minute(s)

2.2.7 Correctives: Flexibility (mobility) training

Flexibility refers to "the ability of a muscle or muscle groups to lengthen passively through a range of motion,"[3] mobility to the "ability of a joint to move actively through a range of motion."[4]

Keywords for flexibility (mobility)

- ❑ Warm muscles
- ❑ Controlled stretching
- ❑ Large range of movement
- ❑ No pain

Guidelines for developing flexibility (mobility)

Variable	Key points
Type of training	○ Individual or with the assistance of a partner
Activities/ movements	○ Reach the limit of the range of motion under control and without any pain. ○ Stretch the muscles and connective tissues.
Frequency	○ To develop: 2 to 4 times per week ○ To maintain: 1 to 2 times per week
Intensity	○ Perform so that some tension, but no pain, is felt in the muscle being stretched.

Duration of each repetition	○ Varies with type of stretching:
	  ○ Up to 30 seconds or more for static stretching
	  ○ Up to 20 seconds for active stretching
	  ○ Up to 15 seconds for assisted stretching using the proprioceptive neuromuscular facilitation (PNF) method

Number of repetitions	○ Perform at least 1 exercise for each of the major muscle groups. ○ Where applicable, do the exercise on both the right and the left sides of the body. ○ Do 3 to 4 repetitions of each exercise, using the same kind of stretching (passive, active, ...) for all repetitions.

[3] https://acornhealth.org.uk/flexibility-vs-mobility/#:~:text=Flexibility%20is%20%E2%80%9Cthe%20ability%20of,through%20a%20range%20of%20motion%E2%80%9D. Retrieved November 15, 2020.
[4] Idem.

Variable	Key points
Duration of recovery between repetitions	○ A few seconds
Duration of recovery between sets	○ Optional, relatively short
Type of recovery	○ Passive or gentle, relaxed movements
Time	○ Typical sessions last 20 to 30 minutes.
Position in training session	○ Stretching should follow a vigorous general warm-up: ○ Do moderately intense aerobic activity, lasting at least 10 to 15 minutes. This can vary depending on the time it takes to elevate the temperature of the muscles and connective tissue, especially in a hot or cold environment. ○ Use the muscle groups that will be stretched. ○ Be sweating by the time flexibility training starts. ○ Do static stretching exercises first, then active stretching exercises, then assisted stretching exercises, and finally dynamic stretching exercises. ○ Within a session, move from the general (major joints) to the specific (sport-specific joints and ranges of motion). ○ Do specific flexibility training late in the session, when the muscles are already warm.
Safety considerations	○ Stretch muscles only when they're warm. ○ Avoid jerky movements when doing stretching exercises. ○ For muscle stretching, keep stretches under control at all times. ○ If any pain occurs while stretching, slowly decrease the stretch's intensity. ○ Breathe slowly and stay relaxed while stretching. ○ Stretching must be viewed as an individual activity. Don't compete against one another when doing flexibility training. ○ Partners who assist in flexibility training must apply force slowly and in a controlled manner.
Position in training program	○ Focus on static stretching first. ○ After a few sessions of static stretching, start extending the stretch slightly beyond the limit of the range of motion. For example, if trying to touch the toes, grasp the ankles to pull the body a bit closer to the toes. ○ Then, in the following order, introduce active stretching, assisted stretching and dynamic stretching. ○ 3 to 5 sessions per week

Types of stretching

To determine the level of flexibility (mobility) an athlete needs to achieve, the key factors are the demands of the sport and the specific range of motion that the limbs are required to move through to execute technique.

To improve flexibility (mobility), muscle fibres and connective tissue must be stretched. The table on the following pages describes the 5 main types of stretching used in flexibility training:

- ❑ Static stretching
- ❑ Active stretching
- ❑ Assisted stretching
- ❑ Dynamic stretching
- ❑ Ballistic stretching

Each type of stretching is based on 1 or more of the following facts:

- ❑ Flexibility increases when muscle tension is reduced.
- ❑ Flexibility increases when force is applied to increase range of movement.
- ❑ Flexibility is specific to a joint. It can vary from joint to joint and with the direction of movement. For example, an athlete could have good shoulder flexibility, but poor trunk flexibility.
- ❑ The range of motion at a joint can be limited by bone or soft tissue. Soft tissue includes ligaments, tendons, cartilage, joint capsules and muscles.
- ❑ Flexibility increases when connective tissue (muscle sheath and tendon) is lengthened. In contrast, flexibility decreases when connective tissue is shortened. For example, even a few days in a cast can cause connective tissue to shorten and resist stretching.

Types of stretching used in flexibility (mobility) training

Type of stretching	Description	Examples	Notes

Static stretching	○ Get into a starting position for the stretching exercise.
	○ In a controlled manner, slowly assume the stretched position. At this point, the muscles are only stretched slightly.
	○ In a controlled manner, progressively increase the stretch's intensity, until you've reached the limit of the range of motion. At this limit, there will be some tension, but no pain.
	○ Hold the position for 20 to 30 seconds (or longer, if possible).
	○ At the end of the stretch, release the tension slowly and return to the starting position again.
	○ Stay relaxed and breathe normally throughout the stretch.
	○ Repeat 2 to 4 times.
	○ If applicable, repeat the stretch for the other side of the body.
		○ Slowly perform a sitting toe touch.
		○ Hold 1 leg in front of the body, rest the leg on a chair, and stretch the hamstrings.
			○ Apply light force throughout the stretch.
			○ When you reach the limit of the range of motion, the muscles opposing those being elongated don't contract to allow the stretch to increase further.
			○ Don't use bouncing movements at the end of the stretch.
			○ If pain occurs during the stretch, slowly decrease the stretch's intensity.
			○ Static stretching:
			  ○ Is easy to learn
			  ○ Produces little soreness
			  ○ Has a generally low risk of injury
			  ○ Doesn't trigger the myotatic stretch reflex

Active stretching	○ The steps involved in active stretching are very much like those for static stretching. The only difference is that in active stretching athletes use their own force to move the body part being stretched and they bring it into the appropriate stretching position. ○ Stretch in a controlled manner. ○ Hold the stretch position for 10 to 20 seconds. ○ Repeat 2 to 4 times	○ Stand on 1 leg, lift the other leg as high as possible in front of the body, and twist from side to side.	○ Active stretching doesn't trigger the myotatic stretch reflex. ○ Static stretching is preferable when the elasticity of the muscles being stretched (agonists) restricts flexibility. ○ Active stretching is preferable when the weakness of the muscles being

Type of stretching	Description	Examples	Notes
	○ If applicable, repeat the stretch for the other side of the body.		stretched (agonists) restricts flexibility.

Assisted stretching	○ Assistance may come from self-applied force, from a partner or from a device (example: towel or rubber tubing).	○ Wrestling moves
		○ Partner-assisted movements, where the partner puts pressure on a limb
			○ Assisted stretching:
			  ○ Involves a greater range of motion than in other types of stretching
			  ○ Is very effective at increasing range of motion
			  ○ Can lead to some muscle soreness and stiffness
			○ Stretch to reach as full a range as possible, and only then get extra stretch from either self- applied force or force from a partner.

Assisted stretching with self-applied force	○ Apply force in static or active stretching to increase range of motion. ○ For instance, when stretching the neck, lean the head to 1 side, and use the hand to apply some force to increase the range of the stretch.		○ Apply force slowly and in a controlled manner.

Type of stretching	Description	Examples	Notes
Assisted stretching with force from a partner	○ Proprioceptive neuromuscular facilitation (PNF) is the dominant form of assisted stretching with force from a partner. ○ The following PNF variant is called contract-relax PNF technique: ○ Perform a slow, controlled and held stretch where the limb reaches the limit of its range of motion. ○ Have a partner assume a stable position to provide resistance against the limb being stretched. ○ At a signal from the partner (example: "Push."), perform a progressive, isometric contraction for 3 to 4 seconds, against the resistance provided by the partner. The tension in the muscle(s) previously stretched will increase gradually, but no movement occurs. ○ Follow this progressive contraction with a near-maximal isometric contraction lasting about 5 seconds. ○ The partner must not allow the limb (whose muscles are being stretched) to move. ○ At the end of the isometric contraction, relax the muscle(s) for 3 to 4 seconds. The partner may signal the start of the relaxation period. ○ The partner applies controlled force to passively increase the degree of the stretch.		○ The effect of the inverse myotatic reflex makes it possible to increase the range of motion after the isometric contraction ○ There should be at least 48 hours between PNF stretching routines. ○ Do only 1 exercise per muscle group. ○ PNF stretching isn't recommended for children or adolescents. ○ If PNF stretching is a separate exercise session, do it **after** a thorough warm- up, consisting of at least 10 minutes of light aerobic exercise and some static and dynamic stretches. ○ Partners must always apply force slowly and in a controlled manner. ○ Partners must assume a stable position that enables them to resist the force generated during the isometric contraction.

Type of stretching	Description	Examples	Notes
Assisted stretching with force from a partner (cont'd)	○ Hold the new stretching position for 10 to 15 seconds. ○ Repeat 2 to 5 times from the starting position. ○ Contract-relax antagonist-contract PNF is a slight variant of contract-relax PNF: ○ Follow the steps for contract-relax PNF, up to and including the 3-to-4-second relaxation period. ○ While the partner applies force to the limb and increases the stretch, perform a submaximal concentric contraction with the muscles that work opposite the ones being stretched. ○ Hold the new stretching position for 10 to 15 seconds. ○ Repeat 2 to 5 times from the starting position.		

Type of stretching	Description	Examples	Notes
Dynamic stretching	○ Start with a thorough warm-up and perform appropriate static and active stretching exercises. ○ Then, do sport-specific movements in sets of 8 to 12 repetitions. ○ Perform movements slowly at first (example: half speed) and progress to faster movements. ○ As movements get faster, the range of motion increases. ○ A few sets may be necessary to reach the full range of motion. ○ Stop if any signs of fatigue appear or form deteriorates.	○ Leg action that mimics kicking a ball (soccer player) ○ High knee raises, with an emphasis on knee height and arm action (sprinter)	○ Dynamic stretching triggers the myotatic stretch reflex, and so must be performed with caution. ○ If done incorrectly, it's potentially hazardous. ○ Initially, coaches should supervise this type of stretching to ensure correct form and appropriate intensity.

Ballistic stretching	○ Use rapid movements that involve high forces (example: crouching, bouncing, pulling) to stretch muscles and other connective tissue.	○ Sit, with a bar on the shoulders, and twisting rapidly from side to side
		○ A series of very fast toe touches, followed by a return to the standing position
			○ The momentum caused by the rapid movements is used to increase muscles' range of motion.
			○ The forces involved can be high and may not be under control.
			○ This ballistic stretching:
			  ○ Evokes the myotatic stretch reflex
			  ○ May cause more soreness than other types of stretching
			  ○ Poses a higher risk of injury than other types of stretching
			  ○ Isn't recommended for beginning or developing athletes

Other considerations

- Before planning a flexibility program, identify the muscle groups and movement patterns that require flexibility training. The functional movement screen (FMS) can be used to assist in identification. Use the required sport-specific movements, including the extreme body positions, as the baseline for analyzing the athlete's current flexibility level and the improvement needed.
- Many exercises can help athletes improve their flexibility. There are often several variations of the same exercise.
- Most exercises can be executed using more than 1 stretching method (passive, active, ...).
- To maximize gains, establish specific times for flexibility training, outside of the regular training sessions, warm-ups and cool-downs. If time restrictions apply, schedule activities designed to improve flexibility for the end of a session, not during the warm-up.
- Athletes can do several flexibility training sessions a day. For instance, 1 flexibility session can take place at the end of a morning workout and a second session can be held later that day.
- Perform static (isometric) contractions and hold them for 3 to 5 seconds to build strength at vulnerable, stretched-out positions.
- Vary the flexibility training to help athletes adhere to the program. Vary the types of stretches, exercises and equipment used (towels, resistance balls, ...) to add variety and effectiveness to the program.
- Athletes can significantly increase flexibility in about 12 weeks. In many cases, athletes can maintain (or even improve) flexibility through sport-specific training, because it develops patterns of joint flexibility unique to that sport. For example, swimmers develop flexibility in their shoulders as they train. Nevertheless, once athletes have achieved adequate flexibility through a stretching program, they should do 1 flexibility-specific training session per week.
- Unlike the other athletic abilities, which all deal with energy systems, flexibility is concerned with bone and soft tissue. Soft tissue includes ligaments, tendons, cartilage, joint capsules and muscles.

2.3 Correctives: Core (stability) training

Stability is defined as the ability to maintain posture or control a movement. Core training improves the body's ability to minimize forces or loads applied to the spine. Stability training tends to enhance the success of other athletic abilities.

2.3.1 Keywords for core (stability)

- ❑ Stabilization
- ❑ Muscle engagement
- ❑ Controlled movement
- ❑ No pain

Guidelines

Variable	Key points
Type of training	○ Static or dynamic
Activities/movements	○ Postural control ○ Stabilization ○ Muscular endurance
Frequency	○ To develop: 2 to 4 times per week ○ To maintain: 1 to 2 times per week
Intensity	○ Time to fatigue

Duration of each repetition	○ Varies with the type of core:
	  ○ Up to 3 to 5 minutes for static
	  ○ Up to 3 sets of 12 to 15 repetitions for dynamic

Number of repetitions	○ Perform at least 1 exercise for each of the major muscle groups. ○ Where applicable, do the exercise on both the right and the left sides of the body. ○ Engage both agonist and antagonistic muscles.
Duration of recovery between repetitions	○ Muscular endurance can be continuous, when alternating muscle groups.
Duration of recovery between sets	○ Optional, relatively short
Type of recovery	○ Passive or gentle, relaxed movements

Variable	Key points
Position in training session	○ Core training should follow a vigorous, general warm-up. ○ Perform moderately intense aerobic activity, lasting at least 10 to 15 minutes. This can vary depending on the time it takes to elevate the temperature of the muscles and connective tissue, especially in a hot or cold environment.
Safety considerations	○ Maintain postural control and alignment. ○ Proper technique is important. ○ Breathe normally. Avoid holding your breath.
Position in training program	○ Focus on static and stable core exercises first. ○ Progress to static and unstable by removing points of contract, ○ Then, introduce dynamic core exercises. ○ Don't add additional weight or resistance to the exercise without a good foundation of core. ○ Add resistance to the trunk/core. Don't add additional weight to the extremities.

Types of stability

The 2 main types of stability training are:

- ❑ Static or positional fatigue
- ❑ Dynamic fatigue

The table below provides sample exercises and progressions for core (stability) training.

Example: Progressing through 5 levels of difficulty for a core exercise

Progression	Description
1. Static stable	Hold a plank position for as long as possible, potentially 3 to 5 minutes. If successful in maintaining proper technique for 5 minutes, progress to difficulty level 2.
2. Static unstable	Remove a point of contact. For example, lift up 1 arm or 1 leg, so that the plank is supported by fewer than 4 points of contact. If successful in maintaining proper technique for 5 minutes, progress to difficulty level 3.
3. Dynamic stable	Add movement to the plank. For example, progress to a push up and execute repetitions for 3 to 5 minutes. If successful in maintaining proper technique for 3 to 5 minutes, progress to difficulty level 4.
4. Dynamic unstable	Similar to level 2, remove a point of contact, but execute repetitions for 3 to 5 minutes. If successful in maintaining proper technique for 3 to 5 minutes, progress to difficulty level 5.
5. Dynamic unstable resisted	Similar to level 4, however, add a resistance or weight to the core, and execute repetitions for 3 to 5 minutes. Note: Don't load or add weight to the extremities.

Other considerations

- ❑ Before planning a stability program, identify the muscle groups and movement patterns that require stability training. FMS can be used to assist in identification. Use the required sport-specific movements as the baseline for analyzing the participant's current stability level and the improvement needed.
- ❑ Many exercises can help participants improve their stability. There are often several variations of the same exercise.
- ❑ Most exercises can be executed using either static or dynamic methods.
- ❑ To maximize gains, establish specific times for stability training. Set that time outside of the regular training sessions, warm-ups and cool-downs. If time restrictions apply, schedule any activities designed to improve stability for the end of a session, not during the warm-up.
- ❑ For stability training, vary the exercises to help participants stick to the program. To add variety and effectiveness to the program, switch up both the types of stability and the exercises executed.

- Participants can significantly increase stability in about 12 weeks. In many cases, participants can maintain (or even improve) stability through sport-specific training.

2.4 Guidelines for developing coordination

- ❑ The activity must involve a sequence of actions that are performed in a given order.
- ❑ An activity that aims to develop coordination will have a difficulty level that's determined primarily by the number of movements or actions to be performed. For beginners and children, there shouldn't be too many movements or actions to perform in sequence (2 to 3 suffice).
- ❑ Depending on the desired goal, the actions or movements can be either general in nature or specific to a sport. For young children, priority should be given to activities for general coordination instead of sport-specific ones.
- ❑ Basic motor patterns must be mastered before a participant tries a more complex sequence of actions. For instance, if participants aren't able to control basic motor patterns (example: running, jumping, rolling, turning, throwing and catching, …), they shouldn't attempt activities involving more advanced coordination.
- ❑ Sequences of movement can be designed for:
  - ○ Specific body parts (example: arms only or legs only)
  - ○ Several body parts at a time
  - ○ The entire body
- ❑ Coordination activities can also take the form of agility games (example: "follow the leader").
- ❑ It's important to ensure that a sequence of movements is correctly executed, at the correct speed, because the neuromuscular system tends to memorize motor patterns as they're learned in practice.
- ❑ It's desirable to create conditions that require participants to perform movements in various directions or use their weaker side.
- ❑ An activity can be made more challenging by:
  - ○ Increasing the speed of execution
  - ○ Adding new movements
  - ○ Combining various actions already mastered, but performing them in an unusual manner (example: dribbling the ball while squatting or running in snow/sand/ water)

- Introducing restrictions (example: less time, less space, increased accuracy, unstable environment)
- Adding uncertainty (example: performing the action with eyes shut)

These variations have to be presented gradually, and only after the participants have mastered the basic sequence of actions.

- It's better to repeat movement sequences more frequently for less time, than to repeat the sequences less frequently for more time. In other words, learning tends to be more effective if you perform 2 repetitions of 5-minute motor sequences 4 times per week, compared to if you have only a 40-minute practice session once per week.

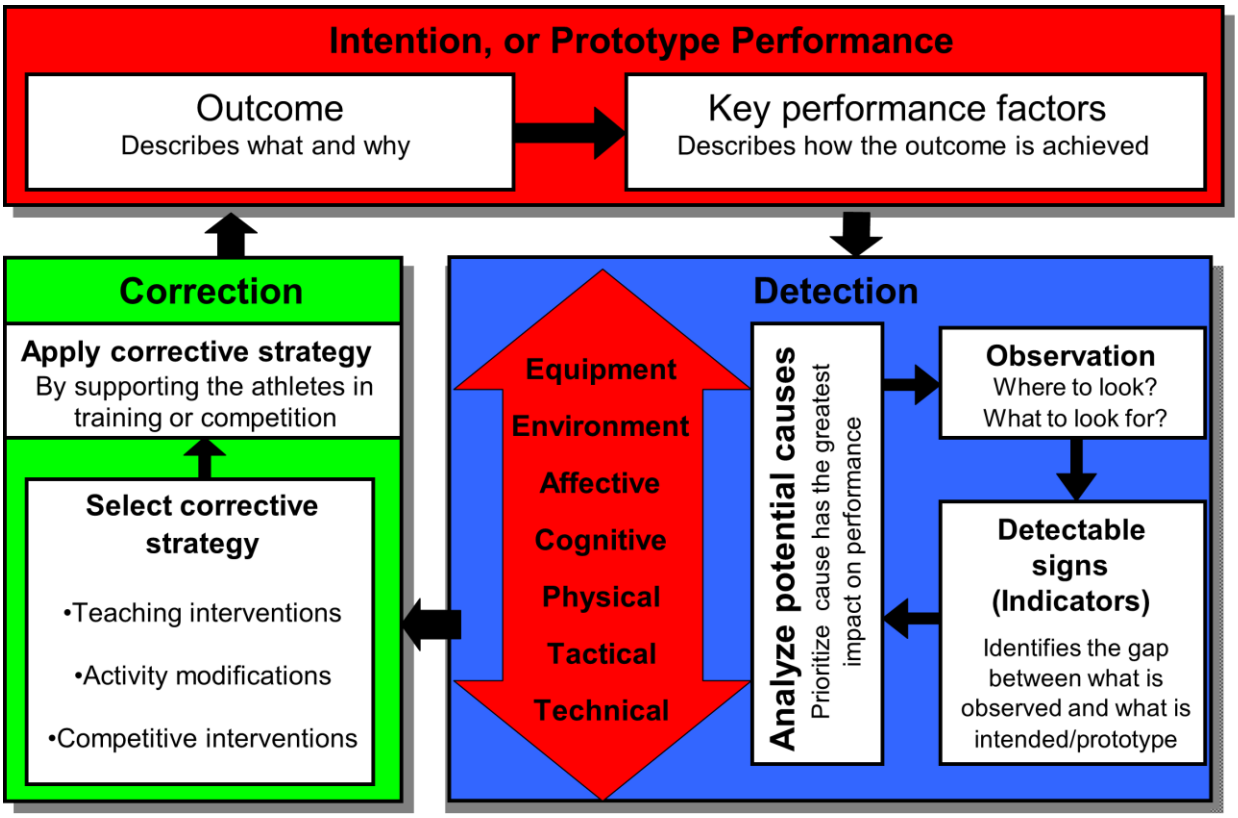
2.5 Guidelines for developing balance

- Although their primary focus is slightly different, some coordination or general motor development activities may also contribute to developing balance.
- In general, to develop balance, you require conditions in which the participants assume and maintain an unusual position or posture for a specified period of time. For instance, stand on 1 foot, stand on 1 foot and crouch, jump on a low bench and stay in position or hop on 1 foot on the spot, now forward, then backward.
- It's also possible to develop balance by performing normal movements in unusual conditions. For instance, walking backward or with eyes closed or on your heels or on a slope or on a narrow and unstable surface (draw a line on the ground or place a rope on the floor). However, it's important to avoid excessively difficult situations that could cause falls or injuries.
- The use of large exercise balls (stability balls) can also present interesting motor challenges and can help develop balance. By using such balls, it's much more difficult for participants to do simple everyday activities (example: sitting, standing or trying to maintain a horizontal body position). Again, it's necessary to take appropriate safety measures to minimize the risk of a fall.
- To improve static balance and stability, participants must:
  - Lower their centre of gravity (bend knees or flex hips)
  - Make the base of support larger (widen leg stance)
  - Increase the number of contact points on the ground, if possible (put a hand on the ground)
  - Ensure weight is evenly distributed on each contact point.

3 The analyze performance referent model

3.1 The intention–detection–correction cycle

The diagram below illustrates the intention–detection–correction cycle that coaches need to use to design drills, games, and practices. This is a process that can be used for any athletic ability and orients the analysis to the factors that are causing issues in your athletes' performance.



3.2 Detection and correction

3.2.1 Potential causes and corrective strategies

The table below provides an overview of the potential causes of performance errors, as well as possible corrective strategies.

Analysis of potential causes						
Equipment	**Environment**	**Affective**	**Cognitive**	**Physical**	**Tactical**	**Technical**
○ Fit ○ Tuning ○ Type	○ Weather ○ Surface ○ Lighting ○ Altitude ○ Pollution	○ Fear ○ Motivation ○ Self-efficacy ○ Belief ○ Interest	○ Understanding ○ Knowledge ○ Concentration ○ Focus ○ Arousal control ○ Cue recognition ○ Perception	○ Strength ○ Stamina ○ Speed ○ Suppleness	○ Decision making ○ Competition plan ○ Selection	○ Phases of movement ○ Biomechanical principles

Corrective strategies		
Teaching interventions	**Activity or drill modifications**	**Competitive interventions**
○ Help or reassure ○ Explain or ask questions ○ Simplify – reduce number of variables to process, or use examples ○ Use mental-skills strategies (e.g., refocusing, visualization or goal setting) ○ Demonstrate or model correct performance ○ Provide feedback or results	○ Adjust equipment ○ Adjust task demands or repeat ○ Adjust progression ○ Adjust speed or timing ○ Adjust space or change environment ○ Adjust work/rest ratios or intensity	○ Adjust equipment ○ Change tactics or game plan ○ Make substitutions ○ Change selection ○ Use mental-skills strategies (e.g., refocusing, visualization or goal setting) ○ Provide feedback or results

3.2.2 Corrective strategies: An example for passing and receiving

The table below provides an example of possible corrective strategies for the fundamental skills of passing and receiving:

Identifying common corrective strategies		
Skill	**Outcome**	**Key performance factors**
○ Passing	○ The athlete selects the proper pass (chest, push, overhead, one– or two–hand bounce, etc.) and passing *"window"* to deliver the ball so it can be easily caught by a receiver	○ Completion of the pass to a designated target (can be a specific spot on the receiver or a space leading the receiver in a particular direction) ○ Ability to identify the open *"window"* ○ *"Look through"* the defender to determine the target ○ Evidence of the *"universal release"* ○ Follow through to target
○ Receiving	○ The completion of the pass	

Potential cause	Priority H/M/L	Key detectable signs (indicators)/Gap)	Common corrective strategies
Equipment	L	○ Ball is flat or has no air pressure ○ Ball is the wrong size/weight	○ Ensure balls are properly inflated
Environment	L	○ N/A	
Affective	M	○ Receiver places hands and forearms in front of face rather than presenting hands for a target ○ Receiver turns head away from passer when ball is delivered ○ Receiver steps back and moves away	○ Slow down the activity (walking or stationary) until confidence is gained ○ Bounce pass first ○ Self-passing to a wall ○ Change equipment – softer ball or lighter ball ○ Provide encouragement and reassurance

Cognitive	H	○ Poor selection of
		  ○ Timing (when)
		  ○ Type of pass
		  ○ Window
		  ○ Target
		  ○ Reason for passing
			○ Provide a demonstration
			○ Explain the purpose of the pass
			○ Modify the drill or activity; e.g., move passer and receiver closer together

Potential cause	Priority H/M/L	Key detectable signs (indicators)/Gap)	Common corrective strategies
			○ Properly "*load the drill*" to match the cognitive ability of the athlete ○ Ask questions to check for understanding ○ Use visualization strategy to create an image of the skill
Physical	H	○ Passer and receiver are unable to execute skill at a quick pace ○ Many passes are dropped ○ Differences in strength (physical maturity) ○ Poor release ○ Poor positioning for generation of power ○ Inability to track the ball ○ Improper hand position ○ Inability to absorb the ball	○ Use a "*variety of pairings*" based on the desired outcome ○ Give participants a break between bouts of activity ○ Modify the drill or activity; e.g., move passer and receiver closer together ○ Change the ball (tennis ball, weighted balls, etc.) ○ Use softer passes, bounce
Tactical	M	○ Passer does not read the "*three levels*" of defence ○ Evidence of the "*universal release*" ○ Follow through to target	○ Ask questions to check for understanding (e.g., what did you see?) ○ Where was the defender? ○ Drills or games that enable the athlete to work on decision making ○ Provide a demonstration ○ Adjust speed of execution until tactic is understood.
Technical	H	○ Completion of the pass to a designated target (can be a specific spot on the receiver or a space leading the receiver in a particular direction.) ○ Ability to identify the open "*window*" ○ "*Look through*" the defender to determine the target	○ Provide specific feedback based on a key technical factor that indicates how to correct performance ○ Provide a demonstration. ○ Modify the drill or activity; e.g., move passer and receiver closer together ○ Use questions to help participant identify area for technical correction

3.2.3 Feedback

Presented below are three steps to take to give athletes appropriate feedback.

- ❑ **Step 1: Success or failure?** Before providing any feedback, identify whether the athlete is succeeding in the activity.
- ❑ **Step 2: Types of intervention.** Choose an appropriate intervention. Five types of interventions are listed in the table below. The first type, 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.

Type of intervention[5]	Behaviours or actions by the coach
A. Inhibiting	○ Do nothing ○ Shout, rebuke
B. Repeating	○ Repeat instructions ○ Demonstrate or repeat previous demonstration
C. Explaining	○ Explain how to do it right (verbal or reference point) ○ Question the athlete
D. Helping	○ Reassure, encourage ○ Have the athlete start again
E. Adapting	○ Use different equipment or practice areas ○ Reduce difficulty level or give more time

- ❑ **Step 3: Saying the right thing.** Here are some examples of what each type of intervention sounds like in words.

Type of feedback	Definition	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	○ Use your legs more! (general) ○ Point your elbow 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)

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

4 The teaching process

The teaching process may be broken down into five main phases:

1. Designing learning activities
2. Setting up the activities
3. Delivering the activities
4. Assessing the learning
5. Adjusting and re-tooling

The first phase is when you plan your training and practice sessions; this is the starting point for your teaching.

In this section, the focus is on the teaching process, and on specific aspects and skills that relate to what you do when you are with your athletes in a practice session. Of course, you must always keep in mind that the sport content of what you teach is an essential part of an effective teaching process.

4.1 Key rules for the daily training environment

4.1.1 Rule of 3

Choose no more than three (3) points of emphasis for each activity planned. This helps athletes stay focused on what you want them to improve without overloading them with information.

4.1.2 Rule of 10

Have athletes work for no more than ten (10) minutes on a single task before changing to another activity or location.

4.1.3 Rule of 30

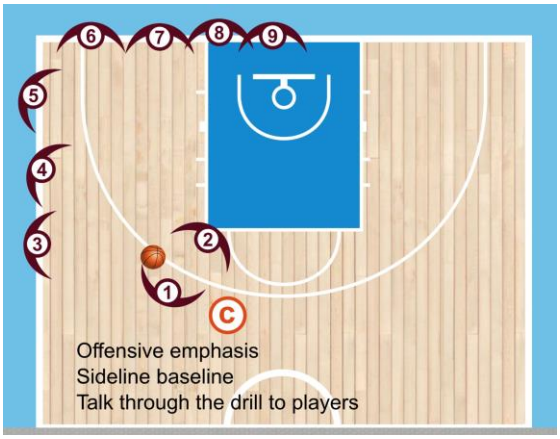
It should take no longer than thirty (30) seconds to get athletes up and running for an activity. It is better to start the activity and then pause or intervene to give feedback than to give a long-winded explanation before beginning.

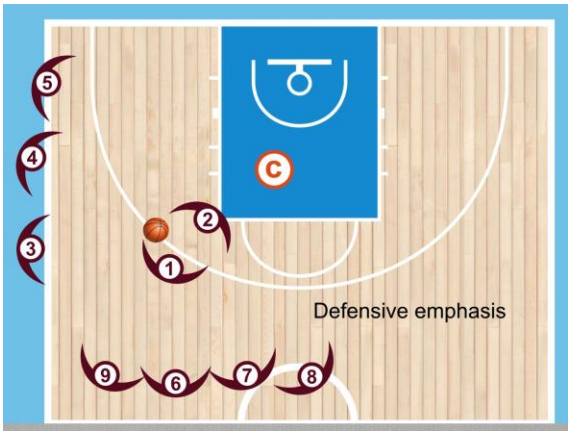
4.2 Demonstrating an activity

When demonstrating an activity, you should keep several factors in mind to ensure the athletes understand what you expect of them. The factors depend on whether it's a new activity that athletes are practising for the first time or if they've performed the activity before.

For a new drill or activity:

- ❑ Where should you stand to explain the activity? What is the positioning of the coach and the athletes? For an offensive drill, you may want to have players line up along the sideline and baseline while you stand near the top of the three-point line. For defensive drills, you may want to have players line up at half-court while you stand closer to the baseline. You want to ensure you have the eyes and ears of all players when explaining and demonstrating an activity.





- ❑ Name your drill: ensure that every activity has a name that your team can become familiar with for the future. This will help them set up quickly when you next practise.
- ❑ State the aim of the drill or activity: what is the purpose or the intent?
- ❑ Talk your demo: walk through the explanation of the activity with the players to explain the principles of play:
  - ○ When positioning the players on the floor, use definitive words (e.g., wing, top) instead of general terms (e.g., over there)
  - ○ Explain the player movement through the activity
  - ○ Explain the ball movement through the activity
  - ○ Review the timing and sequencing of the drill (e.g., Player A cuts to the basket AND THEN Player B makes the pass)

- ❑ Consider the safety concerns of the activity. This may be related to player or ball movement, the timing and sequencing of the drill, environmental concerns or athletes' athletic abilities.
- ❑ Start the drill – remember the Rule of 30.
- ❑ Observe the principles of play and give feedback as required. Focus on the safety concerns and the principles of play.
- ❑ Use Loading to teach and build in your points of emphasis.

When you've planned an activity that you previously used in practice:

- ❑ State the name of the activity.
- ❑ Have players self-organize into the starting position.
- ❑ Ask players to confirm player movement, ball movement, and timing and sequencing of the activity.
- ❑ Review the points of emphasis.
- ❑ Review the safety concerns.
- ❑ Start the drill.
- ❑ Check for understanding of the principles of play, and correct players on the move as needed.
- ❑ Observe the points of emphasis, and provide feedback as required.

5 Skill development

5.1 Motor skills

A motor skill describes an act or task that satisfies 4 criteria.

1. It’s goal oriented, meaning it’s performed to achieve some objective.
2. Body or limb movements are required to accomplish the goal.
3. Those movements are voluntary. Given this requirement, reflexive actions (such as the stepping reflex in infants) aren’t considered skills because they occur involuntarily.
4. It's developed as a result of practice. In other words, a skill must be learned or relearned.

5.2 Classifying motor skills

Sport skills are classified according to whether the movements involved:

- ❑ Are performed in a stable and predictable environment.
- ❑ Have clearly defined beginnings or end points.
- ❑ Are controlled. Usually, classification systems refer to skills that are under closed-loop control (the athlete can use intrinsic feedback during the movement to correct its execution) or open-loop control (the movements are performed too quickly for the participant to have the time to process intrinsic feedback during movement execution).

Some sports are easy to classify, because they involve few well-defined skills. However, this isn't the case for sports that may involve a variety of skills, performed in different conditions or situations.

The tables below provide basic information on how to classify skills and which sports showcase specific kinds of skills. If you know the type of skills featured in your sport (or that are called upon in certain situations), this information may help you decide what activities to choose for your practices and how you should run them.

Classifying sport skills by the stability and predictability of their environment

Closed skills	Continuum	Open skills
Movements are performed in an environment that's both stable and predictable.	Movements are performed in an environment that's predictable but changing.	Movements are performed in an environment that's unpredictable.
Examples ○ Bowling ○ Diving ○ Figure skating ○ Gymnastics ○ Swimming in a pool ○ Weightlifting	**Examples** ○ Athletics (throws, jumps) ○ Archery ○ Bobsleigh ○ Luge ○ Cross-country running ○ Golf ○ Road cycling ○ Shooting ○ Skiing ○ Speed skating	**Examples** ○ Combative sports ○ Racquet sports ○ Team sports ○ Sailing

Note: As indicated by the middle column, there's a continuum from purely closed skills across to purely open skills.

Classifying sport skills by the distinctness of their beginnings and end points

Discrete skills	Serial skills	Continuous skills
Distinct and easily determined beginnings and end points	A series of discrete actions linked together	Actions are repetitive; no distinct and objectively determined beginnings and end points
Examples ○ Catching a ball ○ Throwing a punch ○ Swinging a golf club ○ Throwing a ball	**Examples** ○ Gymnastics routine ○ Figure skating routine	**Examples** ○ Cycling ○ Running ○ Swimming

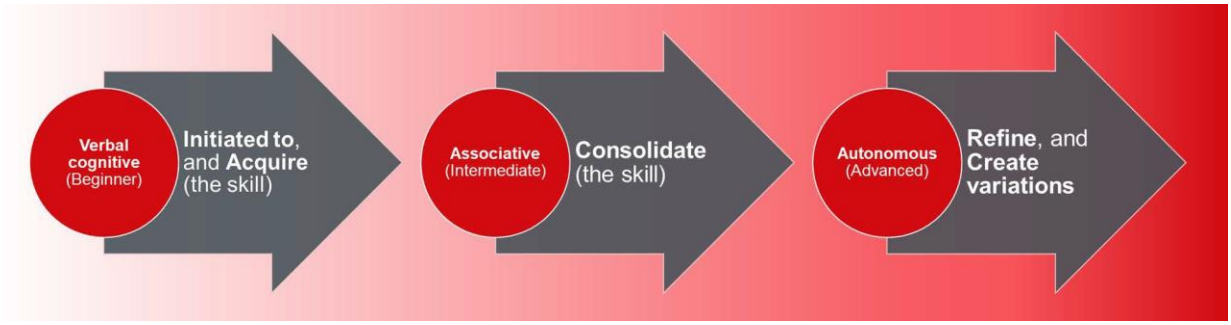
5.3 Skill development

- When learning a skill (recall the definition of motor skill in Section 5.1), participants progress through predictable stages. The table on the following page outlines some key concepts about the stages of skill development and participants' needs at each stage.
- Each participant can be expected to go through each stage. However, the time and amount of practice necessary to progress from 1 stage to the next can vary greatly from 1 participant to another.
- A participant's stage of development doesn't necessarily equate to their stage of skill development. For example, a world-class distance runner who transitions to the steeplechase could be at the Learn to Win stage of development. However, having not yet competed in steeplechase, that runner will be at the initiation and skill acquisition stage of skill development. That is, the runner begins to learn to clear the obstacles (steeples) and studies tactics for the new event.
- The stages of skill development described in the following table (verbal cognitive, associative, autonomous) apply regardless of the type of skill or the way it's classified.
- It's important to recognize your participants' current stage of skill development as well as the specific needs participants have at each stage. It's also critical to plan your practices accordingly (select the right types of activities and the appropriate way to run them).

Note: It may take months or even years of practice for participants to reach the autonomous stage of skill development. At the autonomous stage, they're refining skills, as defined in the following figure. Consequently, at the Competition – Introduction context, few coaches work with participants who reach an advanced stage of skill execution. Therefore, the focus should be on ensuring that the fundamentals are correct and the participants can perform them in a variety of situations and conditions.

5.4 Stages of skill development

When developing a specific skill, athletes pass through 3 stages…



5.4.1 Verbal cognitive stage (development of basic movement pattern)

The verbal cognitive stage involves a high degree of cognitive activity, because this stage's primary focus is for the participant to develop an understanding of the movement's requirements. In this stage of development, participants may ask many questions as they make sense of the skill and determine the best way to execute it (that is, they'll experiment with different ways of executing the skill). The coach can help participants progress through this stage of development by providing specific instructions and demonstrations. Participants aren't able to readily identify the cause of their errors and adjust, so it's important that coaches are able to detect and correct errors and help participants do the same. This stage requires high levels of attention by participants if they're to execute the skill. It's important to limit feedback and instruction during execution to allow participants to focus their attention on the skill.

5.4.2 Associative stage (refinement of movement pattern)

Performance improvement is a key element of this stage, demonstrated by a reduction in participant error and more consistent performance. In this stage, participants will perform the skill through a specific movement pattern (that is, they'll no longer be experimenting with ways to execute it). At this stage, the coach should focus on designing meaningful practice experiences for participants to hone their skills. Feedback continues to be important to support participants' ability to detect and correct errors and guide their refinement of skills.

5.4.3 Autonomous stage (performance of movement virtually automatic)

When a participant arrives at the autonomous stage, it's the result of extensive practice. Not all participants will reach this stage. If learning was done correctly at the other stages, then at this final stage the participants can achieve the highest level of performance proficiency and automate their performance. At this stage, participants

are able to perform consistently, with confidence and with few errors. When they make errors, the participants will generally be able to detect and correct them. At this stage, skill execution requires less attentional focus from participants. Their attention can now be linked more to tactics instead of the skill itself.

5.4.4 Summary tables for each stage of skill development

Verbal cognitive (beginner)

Participants:	Key points to look for:	Participants need to:
○ Are initiated to and **acquire** the skill (Acquiring)	**(Initiated to the skill)** ○ The first contact the participant has with the skill. ○ The participant may have no idea of what to do to perform the skill. **(Acquiring the skill)** ○ The early stage of learning, when the participant becomes capable of: (1) coordinating key components of movements; and (2) executing them in the correct order. As such, the participant performs a rough form of the skill. ○ Movements aren't well synchronized or under control. They also lack rhythm and flow. The execution is inconsistent and lacks precision. ○ Participants have to think about what they're doing while performing the skill. ○ Both form and performance tend to deteriorate markedly whenever the participant tries to execute movements quickly or while under pressure or fatigued. That may be the case in a competitive situation.	**(Initiated to the skill)** ○ Have a clear mental image of what correct execution looks like. ○ Understand the fundamental positions, stances, and patterns of the sport or skill. ○ Feel safe when performing the skill. ○ Reach a comfort level with some movements (or feelings) that may be unfamiliar and that are part of the skill to be learned. **(Acquiring the skill)** ○ Clearly understand what they must do. ○ Have a good mental picture of the task. ○ Perform many repetitions, at their own pace, and under conditions that are stable, easy and safe. ○ Practise on both their sides, if appropriate. ○ Discover some solutions by themselves, using trial and error, based on some feedback from the coach. ○ This stage requires high levels of attention by the participant to execute the skill.

Associative (intermediate)

Participants:	Key points to look for:	Participants need to:
○ **Consolidate** the skill (Consolidating)	○ Participants can execute the movements or the skill with correct form. ○ Movement control, synchronization and rhythm are good when performing the skill under easy and stable conditions. Movements can be repeated consistently and with precision under these conditions. ○ Some performance elements can be maintained when the participant is under pressure, conditions change or demands increase. However, performance becomes somewhat inconsistent as the participant continues to figure out the best movement solution. ○ Participants begin to develop a more personal style.	○ Be exposed to a variety of situations. ○ Perform many repetitions, under varied conditions. ○ Have clear objectives for form (correct execution) and the result of actions. ○ Be challenged by more complex and demanding tasks or conditions. ○ Find more solutions through trial and error, based on less frequent feedback from the coach.

Autonomous (advanced)

Participants:	Key points to look for:	Participants need to:
○ **Refine** and create variations of the skill	**(Refine the skill)** ○ Participants can execute the movements in a way that's very close to the ideal, in terms of form and speed. ○ Performance is very consistent, and precision is high, even under very demanding conditions and in situations that are complex, varied and unpredictable. ○ Only minor fine-tuning may be necessary to achieve optimal execution. ○ A fairly personal style is established. ○ Most movements have been automated, which enables participants to focus on the environment while performing and make rapid adjustments as necessary. ○ Participants can reflect critically on their performance to make corrections. **(Creating variations of the skill)** ○ Creating variations in motor skills is achieved only by the world's best athletes. ○ This is likely more important for select sports that require skills like anticipation and pattern recognition. ○ The athlete has developed a personal style that's efficient for performing the movements. ○ **Personal interpretation of movements or personal movements can be combined into unique patterns in response to specific competitive situations.**	**(Refine the skill)** ○ Be exposed to complex or demanding competitive situations, which require the skill to be executed at a very high level. ○ Learn how to solve unique problems they encounter at this level (examples: fatigue and stress). ○ When they make errors, generally be able to detect and correct them. In this stage, the skill execution requires less attentional focus from participants. The participants' attention can now be more linked to tactics instead of the skill. **(Creating variations of the skill)** ○ Be exposed to complex or demanding competitive situations that require the skill to be executed perfectly. ○ Develop their own solutions.

5.5 Overview of athlete development for each LTAD stage

Note: Developmental age varies between males/females and within a gender. Remember the difference between developmental age and chronological age. This causes fluctuations in the actual LTAD stage that a given player may be in at a given time.

5.5.1 Athletic development

Athletic abilities		Developmental age in years														
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Aerobic power (intense, short efforts of 2-10 min)	F	☹	☹	☹	☹	☹				☺	☺	☺	☺	√	√	√
	M	☹	☹	☹	☹	☹	☹				☺	☺	☺	√	√	√
Aerobic endurance (long efforts)	F	☹	☹	☹	☹		☺	☺	☺	☺	√	√	√	√	√	√
	M	☹	☹	☹	☹	☹		☺	☺	☺	☺	√	√	√	√	√
Speed-endurance	F	☹	☹	☹	☹	☹			☺	☺	☺	√	√	√	√	√
	M	☹	☹	☹	☹	☹	☹			☺	☺	☺	√	√	√	√
Strength-endurance	F	☹	☹	☹			☺	☺	☺	☺	☺	☺	√	√	√	√
	M	☹	☹	☹			☺	☺	☺	☺	☺	☺	☺	√	√	√
Maximum strength	F	☹	☹	☹	☹	☹	☹	☹			☺	☺	☺	√	√	√
	M	☹	☹	☹	☹	☹	☹	☹	☹	☹		☺	☺	☺	☺	√
Speed-strength (muscular power)	F	☹	☹	☹	☹	☹	☹	☹	☹			☺	☺	☺	√	√
	M	☹	☹	☹	☹	☹	☹	☹	☹				☺	☺	☺	√
Flexibility	F	☺	☺	☺	☺	☺	√	√	√	√	√	√	√	√	√	√
	M	☺	☺	☺	☺	☺	√	√	√	√	√	√	√	√	√	√
Speed (efforts of 8 seconds or less)	F	☺	☺	☺			☺	☺	☺	☺	√	√	√	√	√	√
	M		☺	☺	☺				☺	☺	☺	☺	√	√	√	√
Speed (fast cadence of movement, short efforts)	F	☺	☺	☺	√	√	√	√	√	√	√	√	√	√	√	√
	M	☺	☺	☺	√	√	√	√	√	√	√	√	√	√	√	√
Agility/Balance/ Coordination	F	☺	☺	☺	☺	☺	√	√	√	√	√	√	√	√	√	√
	M	☺	☺	☺	☺	☺	√	√	√	√	√	√	√	√	√	√
Decision-making	F	☺	☺	☺	☺	☺	☺	☺	☺	√	√	√	√	√	√	√
	M	☺	☺	☺	☺	☺	☺	☺	☺	√	√	√	√	√	√	√
Strategies/Tactics	F	☹	☹	☹					☺	√	√	√	√	√	√	√
	M	☹	☹	☹					☺	√	√	√	√	√	√	√

Legend: ☹ Should be avoided ☺ Optimal training age ☐ Not a priority
▢ In moderation √ As needed by the sport
F: Female M: Male

5.5.2 Skill development in basketball

Basketball Skills	Developmental Age in Years															
LTAD Stage*	FUNdamentals					L2T		T2T			T2C				L2W	
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Basic skills																
Start, Stop, Pivots					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Dynamic 1on 1					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Lay ups					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Shooting					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Ball handling					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Passing					☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Technical																
1 on 1	☹				☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
2 on 2	☹	☹			☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
3 on 3	☹	☹			☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
4 on 4	☹	☹	☹		☺	☺	☺	☺	☺	☺	√	√	√	√	√	√
Decision making																
Individual	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Team	☹	☹				☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
Strategies																
5 on 5 offence																
Conceptual offence																
Attacking the basket	☹	☹				☺	☺	☺	√	√	√	√	√	√	√	√
Penetration principles	☹	☹				☺	☺	☺	√	√	√	√	√	√	√	√
Passing and cutting	☹	☹					☺	☺	√	√	√	√	√	√	√	√
Screening	☹	☹	☹	☹	☹	☹					☺	☺	☺	√	√	√
Set plays	☹	☹	☹	☹	☹	☹	☹				☺	√	√	√	√	√
Inbounds plays	☹	☹	☹	☹				☺	☺	☺	☺	√	√	√	√	√
Defence																
Player to player																
On the ball	☹	☹				☺	☺	☺	☺	√	√	√	√	√	√	√
Help	☹	☹					☺	☺	☺	√	√	√	√	√	√	√
Support	☹	☹						☺	☺	√	√	√	√	√	√	√
Zones	☹	☹	☹	☹	☹	☹	☹	☹	☹	☺	☺	√	√	√	√	√
Pressure defence																
Full court pick up	☹	☹	☹	☹	☹			☺	☺	√	√	√	√	√	√	√
Double teaming	☹	☹	☹	☹	☹	☹			☺	☺	√	√	√	√	√	√
Zone Pressure	☹	☹	☹	☹	☹	☹	☹	☹		☺	☺	√	√	√	√	√

Basketball Skills	Developmental Age in Years															
LTAD Stage*	FUNdamentals					L2T		T2T			T2C				L2W	
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Transition																
2-1	☹	☹			☺	√	√	√	√	√	√	√	√	√	√	√
3-2	☹	☹	☹		☺	√	√	√	√	√	√	√	√	√	√	√
Conceptual fast break	☹	☹	☹	☹		☺	√	√	√	√	√	√	√	√	√	√
Patterned fast break	☹	☹	☹	☹	☹	☹	☹	☹			☺	☺	√	√	√	√
Tactics																
Game adjustments	☹	☹	☹							☺	☺	√	√	√	√	√
Scouting reports	☹	☹	☹	☹	☹	☹	☹				☺	√	√	√	√	√
Mental training																
Connections						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Enjoyment	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Goal setting								☺	☺	☺	☺	☺	√	√	√	√
Social support	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Consciousness						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Concentration								☺	☺	☺	☺	☺	√	√	√	√
Composure						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Competition management	☹	☹	☹	☹	☹				☺	☺	☺	☺	√	√	√	√
Confidence	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Life skills																
Responsibility						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Communication						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Trust						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Leadership						☺	☺	☺	☺	☺	☺	☺	√	√	√	√
Self-reliance						☺	☺	☺	☺	☺	☺	☺	√	√	√	√

Legend: ☹ Should be avoided ☺ Optimal training age ☐ Not a priority

▢ In moderation √ As needed by the sport

F: Female M: Male

6 The fundamental (technical) skills of basketball

6.1 Pivoting

Definition	Pivoting is when a player steps with one foot while keeping the other foot on the ground. The foot the player steps with is called the pivot foot. Basketball players pivot to maintain balance, create space and ensure that they are in an optimal stance to shoot, dribble or pass.
LTAD considerations	Ask younger athletes to continually see the entire floor in front of them (if on offence) so that they can take advantage of situations as soon as they appear. Using one's body to good advantage becomes a big part of the game as athletes mature. Pivoting correctly gives them an extra tool to use.
Other notes	To determine which foot is the pivot foot: ○ If the player caught the ball with one foot on the ground – that foot is the pivot foot. ○ If the player caught the ball with two feet on the ground – they may choose which foot to pivot on but once they make that decision, they cannot then pivot on the other foot. ○ If the player catches the ball in the air – whichever foot lands first is their pivot foot. If both feet land at the same time (a "jump stop"), the player may choose which foot to pivot on.

6.2 Passing

Definition	The deliberate attempt to move a live ball between teammates.
LTAD considerations	Teach the concept of *passing to space* (i.e., pass where your teammate is going; pass away from the side where the defender is guarding). Making the right pass requires that various levels of defenders be recognized first: on-ball defender, help defender, rotating defender. Loading the same drill or activity with complexities will help teach athletes to use the correct pass and to make the right decision (e.g., start with no defender; move to a guided defender; go live).
Other notes	A chest pass or shoulder pass is a pass where power is generated from the shoulder of one hand and moves through the elbow and ultimately the wrist. The same foot as the dominant passing hand will take a step, and the wrist is snapped as the ball leaves the passing player's body. Players' hands should be positioned, using the "1 ½" alignment, so that the side of the body being used to generate power (i.e., the direction the ball is going) is on top of the ball with the opposite hand being used as a guide. A bounce pass typically comes from the passer's "pocket" area (around the middle of the body). It is a bounce pass coming from a wrist snap, intended for a player who is cutting toward the basket. An overhead pass is a two-handed pass that is held above the player's head and requires both arms to move forward and the hands to be snapped simultaneously as the ball releases off the passer's fingertips.

6.3 Dribbling

Definition	The act of pushing the ball into the floor while flexing the wrist.
LTAD considerations	Players need to learn how to decide what type of dribble to use in which situation. Players must understand why dribbling is necessary. Attacking with a dribble creates pressure on the defence, while retreat dribbles create space and time to make a decision. Dribbling can also be used to create a better angle to pass to a teammate.
Other notes	Spread fingers around the ball — don’t have the ball touch the palm of your hand. Push the ball with force. Don't look down at the ball; use the fingers to see what's happening and use the hands to direct the ball. Types of dribbles to teach to this age group include crab, cross over, spin, behind the back, between the legs, retreat.

6.4 Shooting

Definition	The act of throwing the ball at the rim with the following sequence: On - Up - Out: ○ "On" is defined as the dominant hand holding the ball with fingers spread far enough apart that it's comfortable and the player can hold the ball in one hand on the finger pads. ○ Players should bend the knees as if sitting back in a chair, ten toes pointing to the rim. ○ The shooting hand's middle finger should be in the middle of the ball (over the pump insert), the guide hand on the side of the ball. The guide hand's fingers point to the ceiling with the thumb of the guide hand and the shooting hand making a T. ○ The "Up" of the shot is the motion of bringing the elbow aggressively toward the ceiling with the knees beginning to straighten for power. The ball should be directed upward from the shooting pocket with the elbow. This aligns with the backswing phase of movement. ○ On the catch or pick-up of the dribble, players should move the ball into the shooting pocket and get their body lined up, gripping the ball in preparation to shoot. ○ "Out" is the release of the ball, created by snapping the wrist with the index finger point toward the rim. This is the critical instant phase of movement ○ The ball should leave the hands at the top (or "peak") of the jump while the body is straightened. The power for the shot is generated from the legs, elbow and wrist.
LTAD considerations	Athletes of all sizes need to 1) develop their ability to shoot while facing the basket and 2) learn the basic concepts associated with starting with their back to the basket.

7 Loading and layers

7.1 Loading/Deloading activities

When we talk about loading/deloading an activity, we are talking about changing the activity to make the task either:

a) More challenging/complex, or
b) Easier/less complex.

There are 4 ways to load/deload a drill or game:

1. Physical load: Change the physical demands of part of the drill or game.
2. Mental load: Change the amount of thinking required of the athlete(s).
3. Socio-emotional load: Change the social connections during a drill or game.
4. Technical load: Change the decisions athletes need to make in simple to complex scenarios. with a games approach – using **layers**.

7.2 Layers

Layers of drills are used to break skills into pieces of digestible information for athletes. Layers are the same thing as loading/deloading and are specific to basketball technique/skills. Coaches can use the layering approach for a few purposes:

- ❑ Planning: Helps the coach and athlete define the intent of the activity (e.g., is this drill a skill acquisition activity or a decision-making game?)
- ❑ Teaching and coaching: Brings clarity to the key performance factors of the drill and the type of feedback the coach gives the athlete
- ❑ Tracking and monitoring: Can be used to track and monitor the progress of the program, players and coaches

Drills have 4 layers, and each is summarized below.

7.2.1 Layer A: On-air — Form and speed

- ❑ The focus is on form first, speed second.
- ❑ This layer is generally used when learning a new skill or concept, early in the practice or warm-up, or for review.
- ❑ Coaches can use implements to assist in form and speed (e.g., pylons, chairs, restricting the number of dribbles).
- ❑ Coaches can use this layer to help players learn a movement of a skill or drill, but it is not useful for decision-making or reading offence/defence.

7.2.2 Layer A+: Scripted — Form and speed

- ❑ The focus is on form first, speed second.
- ❑ Coaches have defenders or offensive players perform a specific scripted action — e.g., on defence don't steal the ball, just act as a body.
- ❑ This layer allows the coach to check for understanding — e.g., does the form and speed of the execution stand up to the defence?
- ❑ This layer gives newer players an accurate picture of what happens on court and ensures they practise skills in a realistic manner.

7.2.3 Layer B: Guided — Right decision at the right time

- ❑ Players should maintain form and speed.
- ❑ Decision first, timing second.
- ❑ This layer is generally used early in practice for individual or small-group work or as review when initiating a Layer C drill.
- ❑ There must always be an "either/or" scenario for a decision to exist; e.g., should I go left or right?
- ❑ Load in decisions as they become relevant. E.g., on the catch in a dynamic 1-on-1 drill, should I pass or drive? Should I front pivot or back pivot?)

7.2.4 Layer C: Compete — Execution against Pressure

- ❑ Maintain form and speed, as well as decision making.
- ❑ Execute the skill or drill first, pressure second.
- ❑ This layer is used to execute any skills that must be performed against defence.
- ❑ Varying levels of pressure can be used to push players out of their comfort zone:
  - ○ Sag: The defender is dropped off the ball, applying no pressure.
  - ○ Hand pressure: The defender is in a stance close enough to touch the ball with one hand.
  - ○ Body pressure: The defender is body to body with the offensive player without fouling; this is used mostly when the ball handler can no longer dribble.
  - ○ Bump pressure: The defender is using their body to push the offensive player off their line (this is generally used only in teaching contexts, as this is a foul).

7.2.5 Layer D: Games in the competitive context

- ❑ Maintain form and speed, decision-making and execution against pressure.
- ❑ These types of drills should take up the majority of practice.
- ❑ Players are given some structure (rules) but are allowed to play freely.
- ❑ Players make decisions about how to execute a specific skill based on the pressure they are facing.

7.2.6 Note

It is important to remember that we do not always teach Layers A, B, C and D in this order. Sometimes it's best to start with a games approach (Layer D) to see where athletes are and determine which aspects need work (e.g., are the athletes proficient at shooting but need work on decision-making against body pressure?). Layer D drills allow athletes to play the game and solve problems creatively.

These drills should closely resemble what athletes will see in a game. Many of the drills you can run can be a combination of the different layers. For example, a drill might start in Layer B but in transition become a Layer D competitive drill.

It's important to give players some structure and then allow them to play freely. We don't want to overload them with so much detail they can't make decisions in a game.

8 Modified games

8.1 The games approach

In the games approach to practices, coaches allow players to play a game or a slight variation of it to learn more skills and learn them faster. Within these games, coaches put in place rules or intervention strategies within the rules of the actual game to have the players focus on something specific.

The big fallacy is that a games approach is "free play" and that no learning takes place. This is not true. The coach's interventions lead to guided learning. It's important to take advantage of the "teachable moment" as soon as it occurs.

The theory behind the games approach is as follows:

- ❑ Everyone should have the opportunity to participate in fun and challenging sporting activities.
- ❑ Play doesn't have to become work for improvement to occur.
- ❑ Mastery of skills is not a prerequisite to keep playing the game. This makes it more likely that participants will stay in the sport and get to play the game before they master a certain skill.
- ❑ It gets beginners playing a game, although not necessarily the real game, as quickly as possible.
- ❑ If there's a game early in a session, players have a chance to appreciate the fundamental nature of the game.
- ❑ Play gets participants actively and purposely involved.
- ❑ It clearly identifies the technical skill that is holding back play. Participants are likely to want to improve that skill so the game can continue.
- ❑ It encourages cooperation.
- ❑ It allows players to be more creative and innovative.
- ❑ It promotes decision-making by participants. They learn strategies, not systems.
- ❑ It helps participants reflect more on their play.
- ❑ "Small–sided games" mean players take on more roles and develop a more global understanding of the game.

8.2 An introduction to constraints

We can teach basketball using a games approach, a drill approach or a combination of the two. A games approach begins with a game, has an element of competition and has constraints built in to achieve the following:

- ❑ Ensure the decision or action is repeated often and by multiple players
- ❑ Guide or influence the decision or the elements of the skills involved
- ❑ Challenge and allow for individual variation

8.2.1 What type of constraint should I use?

Constraints help mold learning through changes. A coach can use a constraint to help improve a player's skill acquisition and performance. Generally, there are three types of constraints to choose from.

Type	Person	Environment	Task
Description	Relates to the personal strengths of the players, and their limiting factors	Relates to the physical environment, social environment, team culture	Using small sided games to emphasize skill development and decision making
Examples	○ Physical abilities, including fitness and wellness ○ Individual skill set	○ Having crowds or fans in the stands ○ Noise level in the gym ○ Where does the coach stand to instruct ○ Equipment	○ Boundaries – size and shape of the playing area ○ Point system & scoring ○ Number of players on offence or defence ○ Rule modifications

A drill approach breaks skills down into separate components and uses the layers of a drill to build a higher level of competency in the athlete. Remember, you don't always need to start with a Layer A drill to teach a skill.

8.2.2 What type of drill should I use?

When selecting drills for your practice, you need to keep in mind your goal for the practice. What objectives did you set at the start, and what drills can help you achieve this? We can divide drills into three broad categories (TLC):

A. **Teaching drills**: These are used early in practice to introduce a new concept or skill to players. Coaches should describe the name of the drill, as well as its purpose, and remember to demo the drill so the athletes can see what it should look like. The demo should include spacing, player and ball movement, and the timing and sequencing of the actions performed. At the first stoppage of the drill, coaches can load in a point of emphasis.

B. **Learning drills**: These are used in the middle of practice.

C. **Compete drills**: These are mainly used toward the end of practice for a skill or concept the athlete may be familiar with. The compete layer can be added to a drill to replicate what the athletes might see in a game.

8.3 Putting theory into practice

Here are some interventions that can be introduced within the rules of the game to encourage players to focus more on certain aspects of their play:

- **Freeze – replay**: Freeze the group. Explain a concept and then rewind and allow the play to continue. Don't overuse. Use "what" and "how" questions, instead of telling players what to do and how to do it. What could you have done differently to make a better pass? How would you do it differently?
- **Stop the game and work on a concept**. When you realize that the lack of a certain skill is hindering the game, stop the game, quickly work on the skill and then return to the game.
- **Debrief the game**. Take time at the end of the game to ask players what they learned and what can be improved for the next game.
- **Change the number of offensive and defensive players**. By giving a 1-player (or more) advantage to the offence or the defence, you can shape what you want players to learn.
- **Alter the size and shape of the playing area**. For example, restricting the area from which players can shoot, can only play defence within certain areas, using a smaller court.
- **Change the nature of the goal**. For example, use a lower basket, hit the backboard, pass to a teammate in a certain position, and score the number of passes completed.
- **Primary and secondary rules**. Primary rules are the rules that define the game (e.g., the travel rule in basketball). Secondary rules are rules that can be changed without disrupting the nature of the game (e.g., three seconds in the key). Start with as few rules as possible. Add secondary rules as they become necessary. Take advantage of a teachable moment.
- **Apply conditions to the game**. Add secondary rules that may not be part of the "real game" to shape the focus of the game or enhance play. For example, players must complete five passes before they can shoot, or it's a violation if players don't pivot to face the basket when they catch the ball.
- **Control and develop the good player**. Players want to play on "fair" teams. Make sure there are players of equal ability. While you will sometimes have to restrict the movement and actions of the 'good' player to promote equal play, you can also develop other aspects of their development. For instance, give the good player leadership roles, or make them dribble with their weak hand.

- **Use differential scoring**. Give different points for different shots, e.g., 3 points for shots from a certain distance, 2 points from closer and 1 point for a lay-up. Another way is to reward points for completing an action, such as a point for every pass that preceded the shot.
- **Give players equal playing time**. Players should all have the same amount of playing time. In shorter games, the effort during each game can be more intense. Multiple short games also give a) players more touches on the ball, and b) a chance for them to bond.
- **Take tactical timeouts**. Use freeze replays to direct learning and let players work out problems for themselves
- **Use player-friendly equipment**. Use small balls that are appropriate for players' size or soft balls for teaching catching.

9 Plan a practice

9.1 Checklists and guidelines

9.1.1 Planning guidelines

- ❑ Participants' needs differ depending on the stage of skill development they're at. Participants' needs should therefore guide your goals for practices that aim to develop skills.
- ❑ For practices aimed at developing skills, be sure to adapt goals and activities to participants' needs and capabilities, as well as to the conditions in which these activities take place. Selecting or designing appropriate activities and identifying suitable conditions in which they take place are critical steps in planning your practice.
- ❑ You'll likely need to allow for the fact that not all participants are at the same stage of skill development. This can be dealt with by planning different activities for different groups of participants or by adapting practice conditions to different participants' needs.
- ❑ You can plan the activities and tasks that participants will do during a practice in many different ways. Participants can perform:
  - ○ The whole skill (example: taking a shot in lacrosse or hockey) or only parts of it (example: setting your position to take a shot).
  - ○ Many repetitions without rest (example: shooting baskets 1 after another without a break) or repetitions with varying amounts of rest time between them (example: in soccer, taking 5 shots in a row, then resting for 1 minute and repeating).
  - ○ The same task several times in a row or distinct movements/actions each time, either in a predictable order or in random order (example: practising a handoff several times with 1 sprint relay partner and then changing the relay partners and the position of the exchange on the track).
- ❑ The most effective activities/tasks, types of practice or practice conditions may also vary with the skill to be learned (open, closed, discrete, serial or continuous) or the stage of skill development the participants are at. Additional adjustments may be necessary to better match participants' age.

The following pages present planning guidelines for activities and practice conditions that will support skill development at various stages.

9.1.2 Choosing and designing activities for practices

The key to planning effective practices lies in making good choices about activities. As the figure below shows, the activities you choose and the way you run them should be guided by 3 factors: the activity's goal, the skill under development, and the participants you coach.

The 3 factors guiding activity choices

Have a goal for each activity you choose:

- ❑ Choose a goal that's appropriate for the participants, taking into consideration their maturity and their proficiency in the sport.
- ❑ The way you run the activity must contribute to meeting the goal. For example, consider the suitability to the goal of the duration or number of repetitions, speed of execution and tasks the participants will perform.

The tables in the following sections present the recommended practice conditions for various stages of development and types of practice.

9.1.3 Activity planning guidelines for various stages of skill development

Variable	Verbal cognitive stage	Associative stage	Autonomous stage
Activity	**Initiate to and Acquire** (First contact and movement patterning)	**Consolidate** (Correct execution in variable conditions)	**Refine** (Minor improvements)
Training should emphasize	To start: ○ Basic stances and positions ○ Getting the idea of what the movements are about and look like Progress to: ○ Global execution and general form of the movement ○ High attentional focus for the participant	○ 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
Surrounding environment	○ Stable and predictable ○ Free of distractions	○ Increased variability and distractions in the environment, but not to the point where movement patterns deteriorate	○ Competition conditions
Speed of execution	At speed	○ At speed	○ At speed
Number of repetitions	To start: ○ As needed, depending on participants' general motor development Progress to: ○ High	○ High	○ As many as possible

Variable	Verbal cognitive stage	Associative stage	Autonomous stage
Decision-making	To start: ○ No decision-making ○ No options from which to choose Progress to: ○ Simple decision-making ○ Maximum of 2 options	○ More complex decisions to make ○ Increased frequency of decision-making ○ More options (3 to 4)	○ Complex decisions, with many options and at the same frequency as in a competition
Risk factor	To start: ○ Completely safe conditions ○ Errors of no consequence Progress to: ○ Low-risk conditions	○ Less risk than or similar risk to what is encountered in regular competition	○ Similar to a high level of competition

9.1.4 Planning guidelines for part, progressive part or whole practice

Type of practice	Definition	Examples	When it's most effective	When it's not recommended
Part practice	○ A complex skill is broken down into distinct parts that are practised separately.	○ Breaking down a figure skating or a gymnastics routine into parts	○ Skills that involve some risk in the early stage of learning ○ The parts are performed relatively independently of one another in the real skill ○ Serial tasks of long duration when errors in 1 part don't affect actions in the parts that follow ○ Slow, serial tasks when the parts don't affect one another	○ The interaction between each part is high ○ An error made or a change happening in 1 part affects the actions in the part that follows ○ Discrete skills that are short, performed fast or 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, which come progressively closer to the real, whole action.	○ Linking some parts of a routine, in the order in which they'll be performed (gymnastics or figure skating) ○ Skating and stick handling in ice hockey	○ The task has parts that interact with one another. Adjustments may be necessary as a result of events that occurred in a previous part. ○ Participant has reached a stage where linking actions in a complex skill no longer poses safety risks.	○ Participant can't yet link critical parts or actions in a complex skill. This poses safety risks.

Type of practice	Definition	Examples	When it's most effective	When it's not recommended
Whole practice	○ Participant practises 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 with various parts of the body ○ Coordination of different parts of the body is important (hand and foot motion)	○ Participant can't yet link critical parts or actions in a complex skill. This poses safety risks.

9.1.5 Planning guidelines for massed or distributed practice

Type of practice	Definition	Examples	When it's most effective	When it's not recommended
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 periods between each repetition are **short** compared to the duration of the	○ In cross-country skiing, over a 2-minute period, shifting weight from 1 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 movements are performed rapidly), in particular during the verbal cognitive phase **Note:** In some cases, such as for throwing, some rest between repetitions may be necessary to avoid injuries. ○ **Acquiring or consolidating** the skill during the verbal cognitive or associative stages of skill development	○ Continuous or serial skills ○ Tasks that require a lot of speed or coordination, and where fatigue can build up and affect the quality of execution **Note:** Fatigue that develops during the session can increase the risk of accidents or injuries, particularly toward the end of the practice.

Type of practice	Definition	Examples	When it's most effective	When it's not recommended
	actual task or movement itself		○ The energy requirements of the task are not too high ○ The activity or the task performed poses little risk	
Distributed practice (In general, distributed practice is more effective than massed practice.)	○ An approach to practice in which the pauses or the rest periods following each repetition of a task or movement are **long** 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 metres, 5 times, with a 1-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 **Note:** Fatigue can build up and affect the quality of execution or increase the risk of accidents or injuries.	○ N/A

9.1.6 Planning guidelines for constant, variable or random practice

Type of practice	Definition	Examples	When it's most effective	When it's not recommended
Constant practice	○ A practice sequence in which the same tasks or movements are repeated under the same conditions from 1 repetition to another	○ Throwing a ball 10 times at the same speed, from the same spot to the same target	○ Participants are in the verbal cognitive stage, **acquiring** the skill ○ When is an effective method	○ Participants are beyond the verbal cognitive stage of skill development, in particular, for discrete or open skills
Variable practice	○ A practice sequence in which the same tasks or movements are repeated but where 1 aspect of the execution is changed from 1 repetition to another	○ Throwing a ball 10 times but varying 1 of the following each time: speed, distance, velocity or target	○ Participants are in the associative stage, **consolidating** their skills. ○ When **Massed practice** is an effective method ○ Distinct skills or movements are performed during the same practice	○ Participants are in the verbal cognitive 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 random order, and where the participant doesn't practise the same task on 2 consecutive attempts	○ In tennis, moving backward to do a backhand, then serving, then moving forward 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 ○ Participants are in the associative stage, consolidating their skills, and where distinct skills or movements are scheduled to be performed during the same practice	○ Participants are in the verbal cognitive stage of skill development.

*** Note**: There's strong evidence that random practice, while sometimes associated with inferior performance in the short term, results in superior 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. However, random practice 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. It may be that random practice causes participants to forget short-term solutions to the task at hand, which could eliminate automatic repetitions and engage participants actively in the learning process.

9.1.7 Important notes

Performance versus learning

- *Motor performance* refers to the participant's behaviour when executing a task, as determined by qualitative or quantitative assessments.
- *Learning* refers to the permanent change in motor performance (or skill) that occurs as a result of practice.
- There are 3 different objectives of any skillful movement:
  - Improve the likelihood of achieving the objective
  - Increase movement efficiency to decrease energy expenditure
  - Decrease movement time
- A reassessment of motor performance at a later date (retention test) is necessary to determine if a skill has been learned.
- Failure to appreciate the difference between performance and learning can lead to a misinterpretation of a participant's progress or their actual ability to execute a task independently and consistently.

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 improvements in motor performance and the learning of skills.

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

- Both variable and random practice conditions have been shown to positively affect learning and to promote the ability to transfer skills into another environment. Variable and random practice conditions also increase generalization, because they challenge the participant 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, but poor learning (that is, long-term retention).
- Repeating different tasks under variable conditions (random practice) usually results in inferior performance improvements in the short term compared to

blocked practice. However, it promotes greater learning in the medium 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-term and long- term effects of this method compared to other approaches such as blocked practice.

9.1.8 Adaptations

Coaches and leaders need to adapt for the person. What works for 1 individual doesn't always work for another individual. Adapting for the person can include changing the equipment's size, weight or colour to adjust to the person's strength, size, age, and more. It can also include how instructions are provided to the individual: simple and brief, demonstrations, repetition, and so on. There are a number of options to ensure individuals of all ages, size, strength and abilities can participate. For more information, see "ADAPTIVE technique 1" and "ADAPTIVE technique 2" below.

Persons with a disability

Persons with a disability who get involved in sport are first and foremost athletes. They have the same basic needs, drive and dreams as any other athlete. And, as with any athlete, coaching is a crucial factor to the quality of their sport experience.

- **A coach of an athlete with a disability is a coach of an athlete.** It's a misconception that coaching an athlete with a disability requires highly specialized skills, knowledge or training. In fact, most coaches who work with athletes with a disability soon discover that coaching them is no different than coaching any other athlete. The secret to successful coaching is to truly understand the person, to focus on their abilities and to see what they can achieve.
- **Once you've worked with 1 athlete, you've worked with 1 athlete!** It's important to remember that no 2 athletes are alike. And every athlete, with or without a disability, should be coached to that athlete's individual needs.

9.1.9 Definitions

- **Disability:** An umbrella term covering impairments, activity limitations and participation restrictions. There are 4 broad types of disability:
  - **Behavioural disability:** An emotional disability characterized by 1 or more of the following:
    - An inability to build or maintain satisfactory interpersonal relationships with peers or supervisory adults
    - An inability to learn that can't be adequately explained by intellectual, sensory or health factors
    - A consistent or chronic, inappropriate type of behaviour or feelings under normal conditions
    - Displaying a pervasive mood of unhappiness or depression
    - A tendency to develop physical symptoms, pains or unreasonable fears associated with personal problems
  - **Intellectual disability:** Any condition that includes a lifelong impairment of a person's ability to learn or adapt to one's own environment. An intellectual disability may be present at birth (congenital) or acquired later in life, perhaps from a brain injury. Intellectual disabilities are the most common form of disability in Canada and are sometimes referred to as developmental disabilities.
  - **Physical disability:** The inability, because of an impairment of the musculoskeletal or nervous system, to perform distinctive activities associated with moving oneself and objects from place to place.
  - **Sensory disability:** A disability that affects how people gather information from the world around them. The most common sensory disabilities affect sight and hearing.

9.1.10 The language to use

Leaders need to know and use certain language when talking about disabilities and people with disabilities. The most important thing is to describe the person, not the disability. For example, say "a person who …" or "a person with …" or "a person who has …." However, there are exceptions, as some individuals and groups prefer to self-identify as deaf, autistic or blind.

Language considerations when talking to or about a person with a disability

Outdated language Words you shouldn't use when talking to or about a person with a disability	Respectful disability language Words you could use when talking to or about a person with a disability
Healthy person, normal person	Person without a disability or able-bodied person
Retarded, slow, simple, moronic, defective or retard, afflicted, special person	Person with an intellectual, cognitive, developmental or learning disability
Autistic	Person who has autism
Insane, crazy, psycho, maniac, nuts	Person with an emotional or behavioural disability, person with a mental health or a psychiatric disability
Hearing impaired, suffers a hearing loss	Person who has impaired hearing
Deaf and dumb, mute	Person who is deaf and cannot speak
The Blind	Person who is blind/visually impaired
Mute, dumb	Person who has a communication disorder, is unable to speak or uses a device to speak
Confined or restricted to a wheelchair, wheelchair bound	Person who uses a wheelchair
Crippled, lame, deformed, invalid, spastic	Person with/who has a physical disability
Epileptic	Person with/who has epilepsy or seizure disorder
Afflicted by MS	Person with/who has multiple sclerosis
CP victim	Person with/who has cerebral palsy
Handicapped parking or bathroom	Accessible or barrier-free parking or bathroom
Midget, dwarf	Person of short stature

Important: Language is personal. How athletes refer to their disability may differ from 1 athlete to the next. Whenever possible, refer to the athlete by name and refer to the disability only if it's relevant. There's no one best way to communicate with an athlete. However, the approach must be respectful and positive.

9.1.11 ADAPTIVE techniques

ADAPTIVE technique 1

The NCCP ADAPTIVE techniques can help coaches design more inclusive sport experiences. They provide a framework for coaches to make changes to their coaching environment in the areas of space, tasks, equipment, people, speed and rules.

NCCP ADAPTIVE techniques: Considerations

A-D-A-P-T-I-V-E	Considerations
Ability	Skill tasks should match the athlete's interests and abilities. Goals should be set with input from the athlete (and sometimes from the parents or caregivers).
Difficulty	Adapt the activity or task if it's too difficult (low success), too easy (high success without reward) or 1-sided (success for only 1 team or athlete).
Area	Select size, shape and playing surface to make equal participation possible. For example, floor markings (that aren't readily visible to athletes with visual impairments) should be replaced with floor markings with glare.
Participants	Change the number of athletes involved as needed. Consider athlete groupings. For example, use pairings rather than large groups to provide skill development opportunities and peer interaction.
Time	Adjust time on task to reflect athlete needs. Adjust game time to allow for sufficient rest and recovery. Consider whether the athlete needs more or less downtime or structure.
Inclusion	Where is your program on the inclusion spectrum? Adapt practice structure and coaching methods to ensure all athletes get what they need. For example, consider culture, religion, gender, ethnicity and abilities in your planning.
Variability	Allow athletes to choose movement forms and skill tasks. Alter rules to optimize movement patterns and ensure appropriate levels of success for different athletes.
Equipment	Adapt the size, shape, texture and weight of equipment to accommodate athlete needs and to ensure safety, fun and success.

ADAPTIVE technique 2

To ensure athletes have a positive and inclusive sport experience, the coach asks:

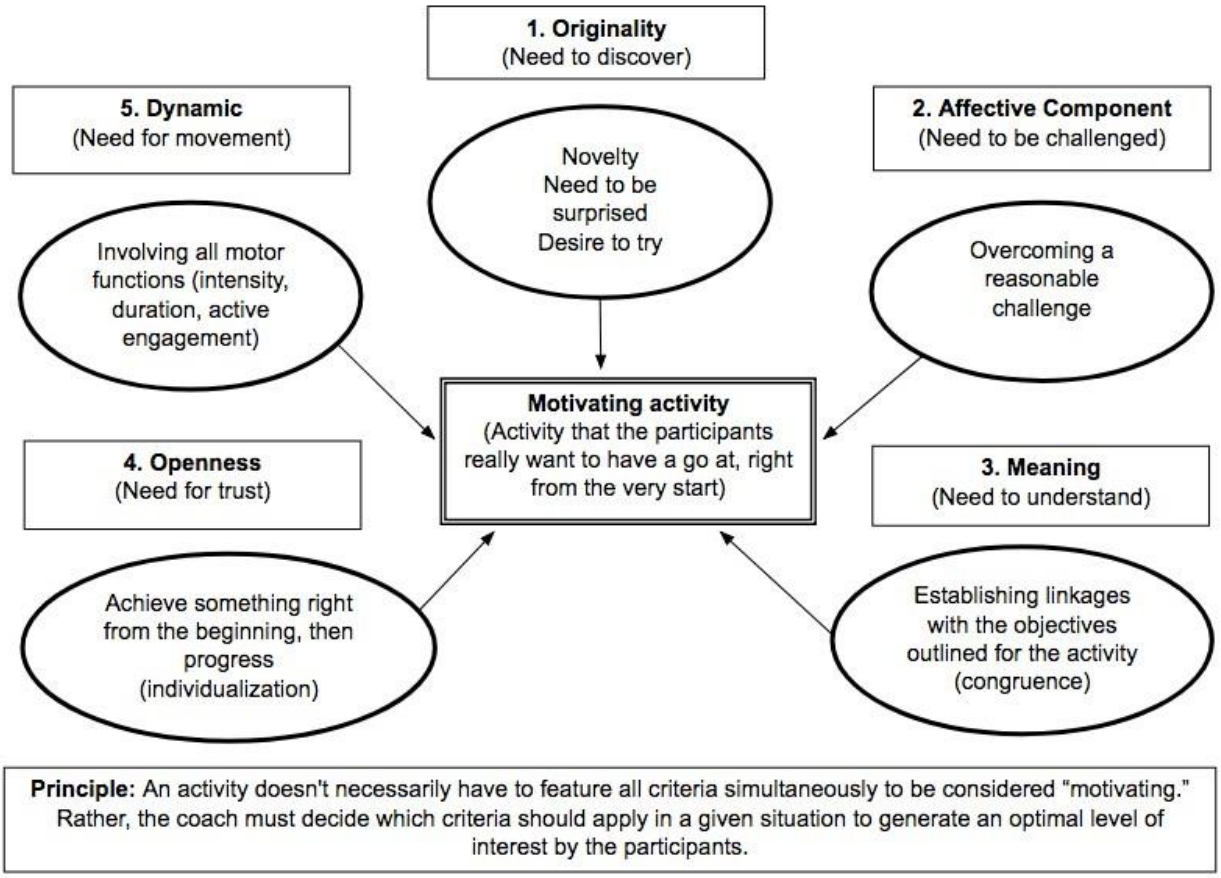
- ❑ Is the environment safe?
- ❑ Are the athletes engaged?
- ❑ Do the athletes experience success?
- ❑ Is there evidence of skill development?

If the answer to any of these questions is "No," then use the ADAPTIVE techniques.

For more information about working with athletes with a disability, see the NCCP e-Learning module Coaching Athletes with a Disability.

9.1.12 The 5 criteria to develop challenging activities that motivate participants to learn

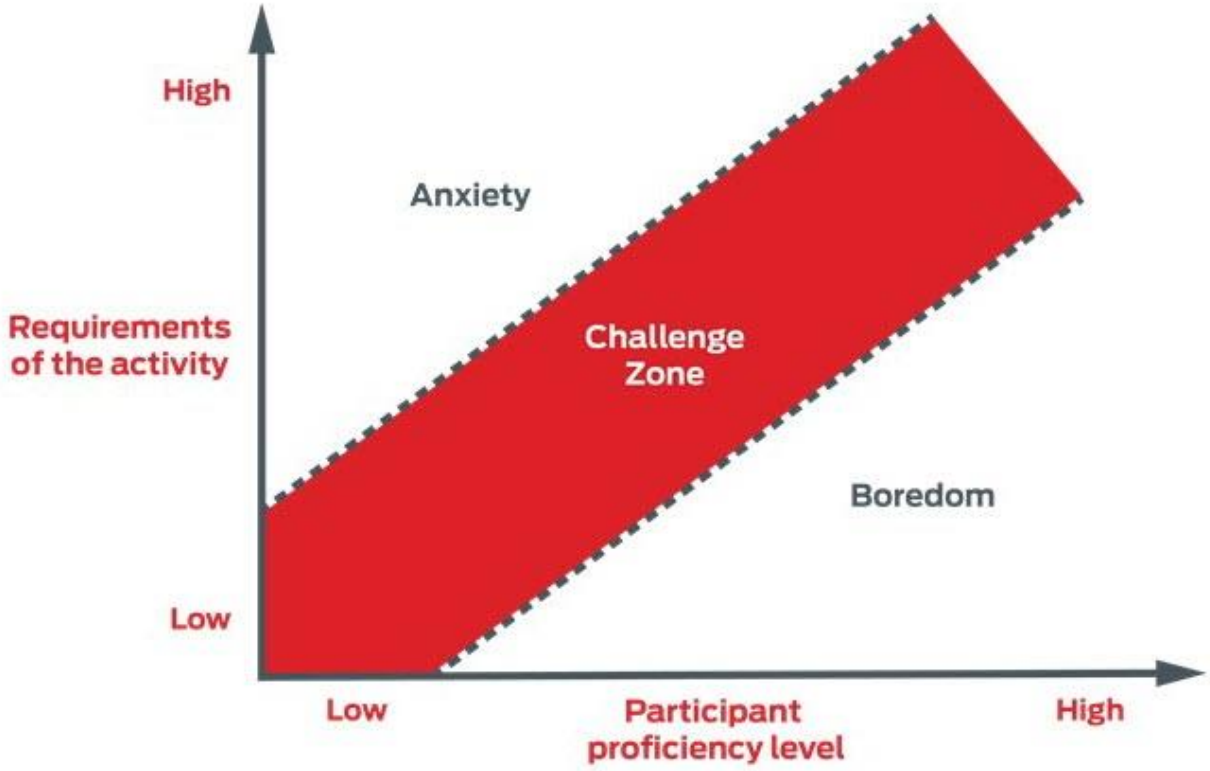
(Source: Martel, 2003; adapted from Florence, Brunelle, and Carlier, 1998)



9.1.13 The challenge zone

When an activity's requirements are too high for the participant's ability, that participant may become anxious or discouraged and have trouble learning. On the other hand, when the requirements are too low, the participant may soon show signs of boredom or lack of interest.

For this reason, the difficulty level associated with a task must be optimal. The participant must feel able to succeed in an activity that still represents a challenge. In other words, the participant will be motivated to learn when challenged at the appropriate level, as long as there's a reasonable chance of success when performing the task. **As a general rule, if participants succeed about 2 times out of 3, the activity represents a suitable challenge.**



9.1.14 The parts of a practice

A well-structured practice has 5 parts:

- **The introduction:** The coach prepares the site and equipment, welcomes the players and briefly explains the goals of the practice. This is also a good time to assess the general status of the participants. For example, have they recovered from the previous practice?
- **The warm-up:** The coach plans activities to gradually activate the participants and prepare them both physically and mentally to effectively perform the main part of the practice.

  The warm-up consists of 2 parts: the general and the specific. The general warm-up aims to raise body temperature until the participants sweat, which allows for progressive muscle stretching.

  The specific warm-up is aimed at preparing the body and mind of the player for the types of movements they will perform in the main part of the practice. In the specific warm-up, movements should mimic those of the main part and gradually build in intensity and range of motion.
- **The main part:** The coach ensures that the activities flow smoothly, are challenging, and help improve both sport-specific abilities and fitness. The chosen activities must be suitable for the player's age, fitness and ability levels.
- **The cool-down:** To initiate the body’s recovery, the coach plans low-intensity transition activities for between the more intense efforts of the main part and the end of the practice. In addition, the coach plans for time for stretching.
- **The conclusion:** The coach provides comments on the practice and gives participants an opportunity to provide feedback. The practice ends on a positive, friendly note. The coach also provides information about the next practice or game.

9.1.15 The key elements to parts of a practice

Practice part and its purpose	Key elements and time
Introduction Purpose is to greet participants and let them know what will take place during practice.	**Before practice begins (time varies):** ○ Inspect facilities ○ Organize equipment ○ Greet each participant ○ Assess each participant's energy level **At the beginning of the practice (2 to 3 min):** ○ Review the goals of the practice and planned activities ○ Give safety instructions specific to planned activities
Warm-up Purpose is to prepare the body for efforts of the practice's main part.	**General warm-up (5 to 10 min):** ○ General exercises or games to loosen muscles and raise body temperature ○ Progressive stretching **Specific warm-up (8 to 15 min):** ○ Brief activities that participants already know ○ Activities that mimic the movements of the main part (may even be the same activity, just at lower intensity) ○ Gradual increase in intensity that won't tire the participants ○ 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
Main part Purpose is to perform activities that will help participants improve sport-specific abilities and fitness.	**3 or more activities that are linked in the proper order* (time varies; 30 to 60 min or more)** ○ Activities that challenge participants so they can learn and improve while enjoying themselves ○ Participants are involved in an activity most of the time (aren't standing around or waiting in line) ○ Allow participants lots of practice for each activity ○ Activities are appropriate for the age, fitness and ability levels of the participants ○ Activities are relevant to the sport *See suggestions for order in Section 9.1.17
Cool-down Purpose is to begin recovery.	**(5 to 10 min)** ○ Gradual decrease in intensity ○ Stretching, especially of most-used muscles

Practice part and its purpose	Key elements and time
Conclusion Purpose is to debrief participants and tell them about the next practice or competition.	**(3 to 5 min)** ○ Provide and ask for feedback about what went well and what could be improved ○ Tell participants about the next practice or competition (example: logistics, goals and emphasis) ○ Lead team cheer ○ Speak with each participant before they leave

9.1.16 Choosing activities for a practice

Planning for an effective practice requires that you choose good activities. To choose the most appropriate type and conditions of practice, consider participants' specific needs and each activity's characteristics and demands. This way, you increase the probability that the desired learning or training effects will happen. The procedure below is recommended when planning the activities for a practice.

Note: Steps marked with an asterisk involve safety considerations.

Step 1: Determine what you want participants to be able to do. This may be a long-term goal, for example, something that may take several practices or even weeks to achieve.

Step 2: Assess the nature of the task you want participants to be able to do. Assess it in terms of the skills (open versus closed, discrete versus serial versus continuous) and the athletic abilities (physical, motor, tactical, and mental) involved.

Step 3*: Given the nature of the task and its demands, question whether the task is appropriate for the participant's age, developmental stage, and current stage of skill development. Proceed to Step 4 only if you can say "Yes, the task is appropriate in each of those cases." If you answer "No," return to Step 1 and make the necessary adjustments.

Step 4*: Decide if the task needs to be broken into distinct parts or executed as a whole.

Step 5: Determine the type of practice that is most appropriate (massed versus distributed, constant versus variable).

Step 6*: Determine the practice conditions that are most appropriate.

Step 7: Considering your logistics and the equipment available, select or design the sport activities that meet the above criteria.

Step 8: Define the measures of success for the activity.

Step 9*: Identify potential risk factors associated with the activity. Take them into account for the activity you design.

Step 10*: Think about the best way to explain the activities. Make it easy for participants to understand what the activity is about and how it should be performed.

Note: The guidelines in the steps above apply to the **planning part** of the practice. Separate NCCP workshops deal with additional coaching skills required for **delivery of the practice,** such as:

- ❑ Interactions with people
- ❑ Group management
- ❑ Teaching and learning
- ❑ Intervention

9.1.17 Order of activities in the main part of a practice

Practices often feature several activities aimed at developing a variety of abilities.

Paying attention to the order in which activities take place in the main part of the practice may increase the probability of achieving the desired goal.

General guidelines for the optimal order of activities

Early in the main part of the practice
Participants aren't tired, so try to plan for: ○ Activities to acquire new techniques, skills or motor patterns ○ Activities that develop or require coordination or balance ○ Activities that develop or require speed ○ Activities that develop or require strength
Then consider...
○ Activities that develop or require speed-endurance ○ Activities that develop or require strength-endurance ○ Activities to consolidate skills already acquired
Later in the main part of the practice
Participants may be tired, so try to plan for: ○ Activities to consolidate skills already required ○ Activities that develop or require aerobic capacity ○ Activities to develop flexibility

9.2 The planning a practice template

Practice plan							
Team:		Date:		Time: from		to	
Age/Level:							
Location:		Objective:					
Equipment needed:							
Introduction						Key message/safety	
Warm-up	Include general and specific warm-up					Key message/safety Equipment needed	
Main part	Pay attention to the order of the activities					Key message/safety Equipment needed	
Cool-down						Key message/safety	
Conclusion						Key message/safety	

9.2.1 Planning a practice checklist

Structure and organization

- ❑ There's a specific objective for the practice and/or different sections of the practice, if appropriate.
- ❑ The practice is organized and well structured (introduction, warm-up, main part, cool-down, conclusion).
- ❑ Equipment and set-up have been modified as recommended in Canada Basketball's LTD model.
- ❑ The warm-up links to the main part and appropriately prepares participants for the practice's activities.
- ❑ The practice's duration is appropriate for the ages and ability levels of the participants.
- ❑ The practice makes full use of available facilities and equipment to achieve the practice goals.
- ❑ Activities are designed to minimize waiting time for participants during the practice.
- ❑ The transition from 1 activity to the next is planned to minimize the time wasted.
- ❑ In the practice's main part, activities are sequenced optimally relative to one another.
- ❑ The coach-to-participant ratio is appropriate for the ages and stages of the participants.

Nature of the activities

- ❑ The practice includes a variety of activities.
- ❑ Participants are grouped by ability.
- ❑ The participants' social and emotional needs (example: gender differences) have been considered.
- ❑ Participants have sufficient practice time during each activity.
- ❑ The activities have well-defined goals.
- ❑ The activities are adapted to the skill and fitness levels of the participants.

- ❑ The coach has considered alternative activities to account for skill differences among the participants.
- ❑ The activities are appropriate to the growth and developmental stage of the participants and activities match Canada Basketball's LTD guidelines.
- ❑ Practice conditions are adapted to participants' current stage of skill development.
- ❑ The activities present exciting and reasonable challenges to participants and are chosen or designed so that participants succeed 2 out of 3 times.
- ❑ The practice includes opportunities for structured and unstructured practice.
- ❑ The practice has been checked for inclusiveness using the ADAPTIVE techniques checklist and meets the needs of all participants.
- ❑ An element of Project Score's 4 Cs (confidence, competence, connection, character; see Section 9.5.4) and the following True Sport principles have been worked into the practice:
  - ○ Go for it
  - ○ Play fair
  - ○ Respect others
  - ○ Keep it fun
  - ○ Stay healthy
  - ○ Include everyone
  - ○ Give back

  (Visit truesportpur.ca/true-sport-principles for more information.)

Safety

- ❑ Potential environmental, mechanical and human risk factors have been considered, and the activities are designed to minimize those risks.
- ❑ The environment is psychologically safe (example: participants and coaches are able to bring their authentic selves to practice).
- ❑ Coach behaviour is considered.
- ❑ An emergency action plan (EAP) is available.

9.2.2 Practice planning tips

- ❑ Always include a warm-up in your practice plan. Never skip or rush the warm-up, even if you're short on time, because skipping the warm-up may lead to injury.
- ❑ Get help from anyone who's available. For example, parents can help by arranging stations so that you can maximize the time that your participants are active. In this case, make sure your assistants are familiar with your practice plan, and give them simple and clear tasks.
- ❑ Avoid elimination activities and games; participants who get bumped first are likely the ones who need the most practice.
- ❑ When you plan an activity that involves opposition, pair up participants with similar ability levels. That way they can challenge each other, and everyone has a fair chance of success. This may also reduce the risk of injuries.
- ❑ Think of all the skills required to perform the drill! A drill or an activity might be relevant to your sport or to the long-term goal you have in mind, but the current skill or fitness levels of your participants may be such that the participants can't really benefit from the drill at this time.
- ❑ Be realistic about the actual number of skills your participants can learn in a season. For some skills, it may take a lot of time and practice for participants to go beyond the acquisition stage.
- ❑ Always make sure that participants have mastered the fundamentals of their sport before you plan for more advanced techniques. However, it's a good idea to start developing tactical and decision-making skills early on. To do this, put the players in challenging situations that force players to use their observation skills, analyze the situation and come up with solutions.
- ❑ Plan for fun. Can you find a way to develop a skill or ability through a game or activity that participants enjoy doing? Ask participants which activities they like the most. Use their preferred ones often, or try variations of them to achieve specific goals.
- ❑ Be creative when participants have to do a lot of repetitions, such as in the case of the acquisition and consolidation stages of skill development. Although your participants may have to work on the same fundamental movements in many practices to acquire the correct motor patterns, you can avoid monotony by using different activities or games that require the movements. Look for new and fun ways of practising those fundamental movements.

- ❑ Take time to get participants to talk about their own performances and discuss what they think is important to work on improving individually, and if appropriate, as a team. Try to build the outcomes of those discussions into your next practice plan.
- ❑ Whenever possible, use random practice, as that promotes better long-term performance improvements.
- ❑ Better long-term improvement in performance can be achieved by not making practices too predictable.
- ❑ Motor tasks that don't produce extreme fatigue or muscle soreness can be practised every day.
- ❑ Tasks that do produce marked fatigue or muscle soreness shouldn't be practised every day. For those tasks, the recovery between practices must be longer. Alternate between days when these skills or tasks are performed and recovery days. Instead of alternating with recovery days, another option is to schedule days for practising other less-tiring skills. For skills that involve some impact or where exhaustion can occur, it may be necessary to practise them only every third day.
- ❑ Be aware of participants' physical capabilities (growth and development) before you ask them to do physical activity. Keep in mind that there could be significant physical differences among your participants, especially if they're teenagers.
- ❑ Simulate competitive situations in practice. Include all elements of the game or competition in your practices (example: rules, competition protocols, interaction with officials, respect for opponents and teammates.)
- ❑ Make a list of all the skills that participants should be coached in, factoring in their age and experience. This becomes a key element of your development plan.
- ❑ The first time you play a game or conduct a drill, it may not be as successful as you might like. Participants may need more time to learn it. Give the activity a name, so that they'll recognize it immediately in the future.
- ❑ Find out what your participants like and dislike about practice. Keep a file or a list of favourite drills, activities and games. Don't be afraid to repeat a game or drill. After all, we enjoy doing the things we like to do.
- ❑ Practice doesn't make perfect; it only makes permanent. Perfect practice makes perfect, permanently.

- ❑ Ensure that your club has a record of participant information and medical information. Keep a binder with you that includes basic medical information (for example, severe allergies), rosters, directions to practice facility, and any other important team information. You may also want to include any relevant team information including codes of conduct or team rules.
- ❑ Keep a written or electronic record of what you do in practice.
- ❑ Make a list of everything. Have a to-do list (generic sheet for every day/practice).
- ❑ Make a list of all your systems of play, break them all down into parts and organize drills for each individual concept. Break down all concepts into different options. Develop a drill for every option.
- ❑ Try to keep things as simple as possible.

9.3 Reasons for being in sport

Athletes or participants come to sport situations with their own needs, interests and reasons for being involved. Some coaches spend more time with athletes than their teachers or even their parents do. Coaches must ensure that their reasons for coaching are consistent with what participants want or need, because coaches have a significant influence on participants' development, from an athletic and a human point of view.

This section provides an overview of the main reasons people are involved in sport and of the expectations participants and parents may have of sport and of coaches. Coaches must recognize and respect individual differences in this area, as participants drop out when programs don't match their reasons for being in sport. In other words, coaches need to be fair to participants, either working to give them the program they want or recommending a program that will better meet their needs.

In general, people participate in sport to fulfill 1 or more of the following 4 desires or needs:

- **Achievement** — A wish to improve, master new skills, and pursue excellence
- **Affiliation** — A desire to have positive and friendly relations with others
- **Sensation** — A desire to experience the sights, sounds and physical feelings surrounding a sport or the excitement in a sport
- **Self-direction** — A wish to feel a sense of control, to feel in charge

9.4 Coaching tips

9.4.1 Achievement-motivated participants

You can enhance participants' motivation to improve and stay in sport programs by providing personal experiences of success. One way of doing this is to set realistic, progressive goals that are based on past performances. That way, participants can see their progress as they strive to improve.

Here are a few more ideas for making sure that participants' needs for achievement are fulfilled:

- ❑ Point out individual improvement.
- ❑ Keep written records of progress in diaries, logs, journals.
- ❑ Schedule games or meets with suitable opponents.
- ❑ Meet regularly to discuss progress and re-evaluate goals.

9.4.2 Affiliation-motivated participants

The affiliation motive is the wish to be part of a group and feel accepted by it. Affiliation is probably the strongest and most common motive for continued participation in sport. Working as a unit, setting goals together, having fun with others, feeling appreciated by a group and sharing with others can all help satisfy the desire for meaningful interaction.

Here are a few suggestions for making sure that the need for affiliation is satisfied:

- ❑ Make interaction with others a part of each practice (example: have athletes do partner drills, encourage partner stretching or have participants coach each other).
- ❑ Have team talks after each practice. Keep these talks informal and encourage participants to be open and honest.
- ❑ Provide opportunities for social get-togethers after games or meets.
- ❑ Encourage participants to help one another and to do things together.
- ❑ Have team parties.
- ❑ Remind participants that everyone is a valued member of the team.

9.4.3 Sensation-motivated participants

Experiences that excite the senses can be very important motivators (example: the sights and smells along a beautiful country trail, the feeling of being fit, the desire to move and be active, and the excitement of sport itself).

Here are a few tips on how to fulfill athletes' needs in this area:

- ❑ Try to arrange workouts in areas with pleasant sights, sounds, smells and physical surroundings.
- ❑ Have participants warm up to music.
- ❑ Provide enough activity for everyone (not too much, not too little).
- ❑ Break monotony regularly with fun or novelty events.
- ❑ Vary workouts by changing the normal routines.
- ❑ Let participants work on exciting new moves.
- ❑ Set up close games and interesting challenges.
- ❑ Ask participants how they feel when they really flow.

9.4.4 Participants who are motivated by self-direction

Sport gives people a rare opportunity to: make decisions about what they're going to do and to deal with the consequences in a non-threatening situation. As a result, there are many things you can do to assist people motivated by self-direction. For example, you can let participants make up their own routines, moves or plays; assess their own progress; set and adjust their own goals; or decide what play to run in a game.

In general, letting participants make their own decisions builds greater commitment, and in doing so increases motivation. The following pointers should help you satisfy participants' needs for self-direction:

- ❑ Put participants in positions of leadership. Have participants lead warm-ups, choose drills to develop certain skills, and so on.
- ❑ During practices or competitions, give participants chances to make their own decisions about what strategy to use (example: what pitch to throw, what play to run, …).
- ❑ Above all, let participants make decisions when it really matters, for example, when decisions will affect outcomes or when parents and friends are in the

stands. This approach helps participants learn to enjoy competition and encourages their development as true competitors.

9.4.5 Reasons children participate in their favourite sport

In a study of 2,000 boys and 1,900 girls in grades 7 to 12, Ewing & Seefeldt (1987) asked students to rank what motivated them to participate in their favourite sport in school. The top 10 reasons were to:

1. Have fun
2. Improve their skills
3. Stay fit
4. Participate in an activity at which they succeed
5. Have fun competing with others
6. Exercise
7. Be part of a team
8. Compete
9. Learn new abilities
10. Win

9.5 Skill development (with loading progression)

9.5.1 Physical abilities (athletic abilities)

To succeed in their sport, participants must have and seek to improve certain abilities that support performance.

Defining athletic abilities

Ability/skill	Definitions
Speed	**Segment speed** Sequence the body movements to have a distal segment of the body (example: hand/arm, leg/foot) move at high speed.
	Whole-body speed Perform quick movements or cover a given distance in the shortest possible time (example: all-out efforts lasting up to 8 seconds).
	Multi-directional speed Make quick changes in direction.
Stamina*	**Aerobic capacity (also known as endurance)** Sustain a dynamic effort over an extended period of time (example: efforts lasting several minutes or even hours).
	Aerobic power Perform high-intensity, dynamic efforts that are predominantly aerobic (example: 2 to 10 minutes).
	Speed-endurance Sustain efforts at near-maximum speed for as long as possible (example: very intense efforts, lasting 10 *to* 60 seconds).

Ability/skill	Definitions
Strength	**Core stability** Provide a base for moving other body parts by stretching and controlling the muscles around the abdomen and back.
	Strength-endurance Repeatedly perform muscle contractions at intensities below maximum strength (15 to 30 repetitions or more).
	Hypertrophy Gain muscle size (cross-sectional area).
	Maximum strength Make a muscle or muscle group generate the highest level of tension during a maximum contraction, regardless of the contraction's duration.
	Power Perform a muscle contraction or overcome a resistance as fast as possible (normally very brief efforts of 1 *to* 2 seconds).
Agility	Agility accounts for the skills and abilities needed to explosively change movement velocities or modes.
Balance	Achieve and maintain stability or keep control of the body while executing movements.
Coordination	Perform movements in the correct order and at the right time.
Quickness	React and change body position with a maximum rate of force production.
Flexibility/suppleness	Perform movements of large amplitude at a joint, without sustaining an injury.
Technical/tactical skills	Acquire and consolidate basic sport-specific skills. Analyze a basic situation and produce a correct response, which gives a competitive advantage or increases the probability of a good performance.
Variations of basic technical/tactical skills	Acquire and consolidate variations of basic sport-specific skills. Analyze a complex situation and produce a correct response.

* Stamina is a broad term that is sufficient for most sports. In endurance sports, however, the more specific terms **aerobic power** and **aerobic capacity** are used.

9.5.2 Mental skills

Defining mental skills

Mental skill (as appropriate)	Definitions
Attentional control	Actively direct one's attention to relevant cues in the environment.
Emotional control	Maintain appropriate feelings at optimum levels of intensity and functioning.
Goal setting	Establish what one wants to accomplish, which will give a sense of purpose and direction to training and competition.

9.5.3 Importance of physical and motor abilities in team sports

The table below presents information on the importance of physical and motor abilities in team sports. Different abilities will be used at different times depending on which position the athlete is playing, and at different points in the game (e.g., shooting guard, offence, late-in-game defence). In the Learn-to-Train context, players should be developing all abilities, and it is not recommended that they specialize in a specific position.

How to read this table:

- In most cases, athletic abilities have ONE importance in a sport family. For example, *segment speed* is of moderate importance in the sport family *Ice hockey, basketball*.
- In a few cases, an athletic ability has different importance for different sports in the same sport family. For instance, the table shows that *multi-dimensional speed* is of moderate *and* high importance in the sport family *Baseball, softball, volleyball*.
  - When this happens, the symbols * and † link each importance shown with the appropriate sport.
    Example: *Multi-dimensional speed* is shown as having *Moderate, †high* importance in the *Baseball, softball, volleyball†* sport family. This means that multi-dimensional speed is of high importance in volleyball but of moderate importance in baseball and softball.

Term for the ability		Importance of ability by sport family		
Sport for Life term	Competition – Development term	Soccer, lacrosse, rugby*	Ice hockey, basketball	Baseball, softball, volleyball†
Stamina	Aerobic capacity	Moderate	Moderate	Low
	Aerobic power	High	Moderate	Low
	Anaerobic lactic	High	Very high	Moderate
Speed	Segment speed	High	Moderate	Very high
	Whole-body speed	High	High	High
	Multi-dimensional speed	Very high	Very high	Moderate, †high
Strength	Core/strength/ stability	High	High	Very high
	Strength-endurance	High	High	Moderate
	Hypertrophy	Moderate, *high	Moderate	Low
	Max strength	Moderate, *high	Moderate	Moderate
	Power	High, *very high	High	High
Suppleness	Flexibility	Moderate	Moderate	Moderate
Physical literacy/ motor ability	Agility	Very high	Very high	High
	Balance	High	High	Moderate
	Coordination	High	Very high	Very high
	Quickness	Very high	High	High

9.5.4 Project SCORE

Project SCORE[6] (Sport COnnect and REspect) is a free, personal development resource for coaches. It focuses on 4 main areas (the 4 Cs) of sport development: confidence, competence, connection and character.

Themes under each of the 4 Cs in Project SCORE

Confidence	Competence
○ Your turn ○ Recognize ○ Tell a story	○ Training the mind ○ Let's train ○ Sport for life
Connection	**Character**
○ Team connection ○ Coach connection ○ Parent connection ○ Community connection	○ Respect ○ Fair play ○ Developing leaders

The 4 Cs are used as a platform to teach positive development through sport. Project SCORE has developed into a key resource for coaches, participants and parents. The goal is to support youth's growth throughout sport and life. The focus is to deliberately deliver the 4 Cs in sport programs and help parents support these lessons outside sport. Within the projectscore.ca website, you'll find the Coach's Locker Room, featuring information and activities for coaches related to the 4 Cs and encouraging a positive experience in sport. There are also simple activities or drills called SCORE Plays, which coaches can use and integrate into practices.

Ideally, spend at least a few minutes and 1 week per C of the 4 Cs to emphasize the themes within practices as well as during games. Project SCORE also has a supplementary resource for parents, called Parent's Lounge. It provides parents with ideas on how to support the development of the 4 Cs, reinforces lessons learned in sport, and gives them SCORE Plays activities to follow as well.

[6] The University of Manitoba's Dr. Leisha Strachan served as Principal Investigator of the project, which involved researchers Dr. Dany MacDonald, from the University of Prince Edward Island, and Dr. Jean Côté, from Queen's University. Project SCORE was developed through grants from the Social Sciences and Humanities Research Council, the Sport Canada Research Initiative and the University of Manitoba.

Created in 2010, the program is based on research in the field of positive youth development in sport. It's been endorsed by True Sport and is available in English, French and Portuguese. It was developed through the support of and partnership with the Social Sciences and Humanities Research Council's Sport Canada Research Initiative, involving the University of Manitoba, Coaching Manitoba, University of Prince Edward Island, Queen's University and True Sport.

These lessons will help coaches make better connections with participants to enhance their athletic performance, participation and personal development.

For more information, visit projectscore.ca.

9.5.5 Sport safety through risk management

By its very nature, physical activity can present some risk of injury. For coaches, a key responsibility is to manage the potential risks that present themselves during practice or competition. The primary risk factors can be categorized as follows:

	**Environmental risks** These risk factors are related to the weather or its effects on the practice or competition site. **Examples:** Lightning, rain, puddles/mud on the playing surface, heat and humidity, cold.
	**Equipment and facilities risks** These risk factors are related to the quality and operating conditions of equipment and facilities. **Examples:** Sneakers that do not fit, no mouth guards, worn-out basketballs, playing surfaces that are not even or well maintained, court lines/markings that are faded, insufficient storage capacity in the gym, etc.
	**Human risks** These risk factors are related to participants and the people associated with them, such as parents, coaches, officials and event organizers. Human risks may also be related to participants' individual characteristics (height, weight, level of physical preparation, ability) or behaviours (carelessness, panic, aggression). Human factors related to coaches include their training and experience, their supervision of athletes, and the decisions coaches make about the situations in which they put participants. **Examples:** a coach drawing up drills and plays that are not age or stage appropriate, lack of body coordination amongst athletes, a parent makes berating comments to an official during a game.

9.5.6 Strategies for managing risk

Information to gather

- ❑ Risks of the activity
- ❑ Participants' contact information (phone numbers and addresses of participants and their parents), in case of emergency
- ❑ Phone numbers of the following:
  - ○ Ambulance service
  - ○ Police force
  - ○ Fire department
  - ○ Public safety service
- ❑ Checklist for facility safety
- ❑ Medical conditions of each participant (example: illnesses, allergies, disabilities, injuries, previous concussions), person to contact in an emergency situation, and procedures to follow if an emergency occurs (example: administer a specific medication), past injury reports

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

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

Take the NCCP Making Head Way eLearning module to become knowledgeable about concussion management

Actions to take

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

- ❑ Designing an Emergency Action Plan
  - ○ The Coaching Association of Canada has an eLearning module that will guide you through how to build an Emergency Action Plan (EAP).
  - ○ Completion of this EAP eLearning module is required to achieve trained status as a Competition – Introduction coach.
  - ○ Visit coach.ca and click on The Locker to access the eLearning module.
- ❑ Inspecting equipment and facilities
  - ○ Ensure that you're fully aware of the specific safety standards related to any equipment that you use as part of your program.
  - ○ Take an inventory of collective and individual equipment.
  - ○ Take an inventory of your available first-aid equipment. Carry a first-aid kit at all times. (See Appendix 5 for an example of the contents of a first-aid kit.)
  - ○ Assess the safety of the facility itself (example: walls, playing area, lighting) by completing a checklist for facility safety (see Appendix 3 for an example).
  - ○ Identify risk factors related to your environment, equipment and facilities, and humans.
  - ○ Ensure that participants wear their protective equipment and that it's properly adjusted and in good condition.
- ❑ Informing participants and parents
  - ○ Inform parents and participants of the risks inherent in the sport.
  - ○ Fully explain the safety procedures and instructions related to all activities. Check that participants understand the procedures and instructions.
  - ○ Provide participants and parents with educational material on concussions. Information for parents and participants can be found online by visiting https://coach.ca/concussion-awareness.
  - ○ When explaining an activity during a practice or competition, highlight the potential risks. For example, if participants are required to cross paths, ask the participants to keep their heads up and to be alert to where others are as they move around. Or, if it's just rained and your team is practising on wet grass, remind your participants that the field is slippery.
- ❑ Supervising activities
  - ○ Ensure that the number of participants involved isn't so high that it compromises supervision and safety.

- Keep in mind that participants need constant supervision. Stop all activities when you must leave the room or site. Or delegate responsibility for the group to a competent person.
- Look for signs of fatigue and aggression in participants. If necessary, stop the activity.

❑ Implementing guidelines for return to play

- Ensure that guidelines for return to play are followed whenever a brain or head injury occurs. You can download the guidelines from https://www.coach.ca/ concussion-awareness-s16361.

Summary

Preventing sport-related injuries: What to do and when to do it

Before the season

❑ Have each participant complete a medical profile.

❑ Inform parents of possible risks.

❑ Inform parents and participants about educational material on concussions.

❑ Ensure facilities and equipment meet established safety requirements.

❑ Create and fill in a checklist for facility safety.

❑ Review last season's injuries 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 (EAP).
- 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's 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.

10 Appendices

Appendix 1 – Sample code of conduct for athletes

During training and sport events (if applicable), we want to observe the following:

1. Athletes having fun and **enjoying themselves**.
2. Practice sessions and activities that, by design and by implementation, promote **self-esteem** in athletes.
3. Athletes learning **the fundamental technical abilities** of the sport.
4. Athletes making **new friends** by demonstrating **positive attitudes** and **tolerance.**
5. Athletes having **fair and equal opportunity to participate** in practice activities and games/competitions, regardless of skill level. Consequently, parents of children who are more skilled should not expect that their child will receive greater attention and/or playing time.

Our *code of conduct* can be summarized as follows:

1. **Listen**: Listen carefully to those who are talking to you.
2. **Respect**:
   - ◇ Others (coaches, teammates, officials, opponents, parents).
   - ◇ The equipment and facilities loaned to you for your use.
   - ◇ The environment.
3. **Work:** Give your best effort at all times, both individually and as a team.

Coach's Responsibilities

1. Be the program leader and be aware of all that is happening in the program.
2. Plan and lead fun, safe, and purposeful practice sessions.
3. Involve parents in the program, and clearly communicate what is expected of them (parents entrust their children to the program leaders during practice sessions and competitions and should not intervene with their children during these times).
4. Create an environment that will promote all the values identified in this code, in training and in competition.

Appendix 2 – Sample code of conduct for parents

As adults, we increasingly want to define our rights and responsibilities. Take a few moments to reflect upon our rights and responsibilities as parents of children involved in organized sport. Do we have a code of conduct that guides our behaviour and expectations?

Our rights

The stakeholders of sport, i.e., athletes, coaches, officials and activity hosts, must:

- ❑ Act with respect for themselves – demonstrate dignity, modesty, fairness, justice, maturity, leadership, a positive attitude.
- ❑ Act with respect for others in word and in action.
- ❑ Act with respect for the environment (human and physical).
- ❑ Create a sport environment that is fun, safe, and conducive to learning.
- ❑ Respect the facilities and material to which they have access.
- ❑ Know the rules of the sport.

Our code of conduct as parents

Together, as a team of parents and athletes, we should identify acceptable behaviours (i.e., in the stands, on the sidelines) that demonstrate respect for others, and behaviours that promote a positive learning environment. These behaviours should be based on the values that are implied in the section "Our Rights" above.

Examples of behaviours that demonstrate respect:

For ourselves	Accept a mistake made by a player or an official without yelling at him/her
For others	Do not yell instructions to the players during the game
For the environment	Establish a respectful atmosphere among the spectators

Reflect on these guidelines and what your role might be as a parent in upholding this code.

Appendix 3 - Sport as a discrimination-free zone

Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.

– Canadian Charter of Rights and Freedoms

One of your shared responsibilities with participants and parents is to ensure that discriminatory behaviour on the bases described in the Charter and in the NCCP Code of Ethics is not tolerated in your sport environment.

Discrimination occurs when an individual or group is treated unfavourably or unequally because of prejudice *or* stereotyping.

Prejudice is the use of prejudgment or having a preconceived opinion about someone.

A **stereotype** is the broad, often inaccurate, belief about the characteristics of a cultural, ethnic, or racial group, used to describe an individual thought to be a member of that group.

Harassment is comments or conduct that should reasonably be known to be unwelcome to another and can include actions such as jokes that isolate a particular group or groups, verbal slurs and insults, and condescending or intimidating behaviours.

What can I do to create a discrimination-free zone with my team?

There are many influences on participants that affect their ability to treat one another fairly and with respect. For example, participants may have been exposed to racist or sexist behaviour all around them at school, at home, and at play. The best thing you can do as a coach is to watch what you say and do, intervene if someone on or around your team acts in a discriminatory way, and encourage participants and their parents to intervene themselves if they see or hear this type of behaviour.

Addressing how participants want to be treated and how they are going to treat others is a great starting point for building a team code together, which will go a long way toward preventing discriminatory behaviour before it happens.

What can I do if I witness discriminatory behaviour?

Understand clearly that not responding is actually interpreted by others as a response; this passive response can indicate that you are OK with what was said or done. A passive response, although leaving you at little personal risk, does nothing to change or stop the behaviour from happening again.

An aggressive response usually seeks to shame the person who has shown the discriminatory behaviour. This type of response usually escalates the situation and does not model respect for others.

Choose a positive response to intervene effectively

Passive response "doing nothing" **Not recommended**	○ Goal is to ignore the behaviour ○ Sometimes an attempt is made to rationalize the behaviour ○ Assumes the other person will not stop/change the behaviour even if an intervention is made ○ Considers time on task and/or personal safety as more important ***Examples: Laugh along with a discriminatory joke, or saying nothing when a discriminatory remark is made***
Aggressive response "confronting" **Not recommended**	○ Goal is to stop the behaviour in the short term ○ Comes across as judging the person, not the behaviour ○ Usually results in the other person wanting to retaliate ○ Often based on a sense of superior authority, strength, or numbers ○ The safety of the person whom you are confronting is also at risk now ***Examples: "I can't believe you said that. How ignorant can you be?" "Don't you know that what you are saying is wrong?"***
Positive response "seeking change" **Recommended**	○ Goal is to stop the behaviour in the short term and to change the behaviour in the long term ○ Names the behaviour as unacceptable ○ Points out what is needed in the situation ○ Does not judge the other person ○ Is based on modelling respect ***Example: "Please do not say that; it is hurtful. How about treating that person as you would like to be treated, and as we agreed to treat one another as team members?"***

By choosing a positive response and intervening when you witness discriminatory behaviour, you are modelling respect for others and attempting to educate for change.

A checklist - Is our team environment a discrimination-free zone?

☐	People-first language is used (i.e., language that does not demean a particular person or group)
☐	Posters and other materials that demean a particular group are not displayed or exchanged (e.g., posters, cards, magazines, cartoons, videos/DVDs, screensavers)
☐	Name-calling is not tolerated
☐	Jokes that poke fun at specific populations are not tolerated
☐	Every participant gets equitable attention from the coach
☐	Every participant gets equitable playing time in community sport
☐	Every participant has a say in developing the team code of conduct
☐	The team code of conduct outlines behaviours that will promote a discrimination-free zone and this code is enforced by all
☐	Initiation ceremonies are not practised

Appendix 4: Major questions for setting up a practice plan

Appendix 5: First-aid kit

A complete first-aid kit is essential. This kit must be carefully prepared to treat the most common injuries. Furthermore, the kit must be accessible to those who are responsible for the team. Regularly check the expiry dates of items in the first-aid kit. Here's a list of what a first-aid kit should contain, according to the Canadian Red Cross.

- ❑ Emergency telephone numbers for EMS/9-1-1, your local poison control centre, and your personal doctors
- ❑ Home and office phone numbers for family members, friends, or neighbours who can help
- ❑ Sterile gauze pads (dressings) in small and large squares to place over wounds
- ❑ Adhesive tape
- ❑ Roller and triangular bandages to hold dressings in place or to make an arm sling
- ❑ Adhesive bandages in assorted sizes
- ❑ Scissors
- ❑ Tweezers
- ❑ Safety pins
- ❑ Instant ice packs
- ❑ Disposable non-latex gloves, such as surgical or examination gloves
- ❑ Flashlight, with extra batteries in a separate bag
- ❑ Antiseptic wipes or soap
- ❑ Pencil and pad
- ❑ Emergency blanket
- ❑ Eye patches
- ❑ Thermometer
- ❑ Barrier devices, such as a pocket mask or face shield
- ❑ Coins for pay phone
- ❑ First aid manual

Source: Kit Contents, Canadian Red Cross.

Appendix 6: Sample facility inspection grid

Facility: _____

Date: _____

Inspected by:_____

Item	Adequate	Inadequate	Corrective measures*	Observations
Stationary equipment				
Team equipment				
Individual equipment				
First-aid kit and procedures				
Others				

*Corrections 1) add 2) replace 3) modify 4) discard 5) clean 6) repair 7) check

Note: Once completed, this document should be given to the facilities manager. The coach should also keep a copy on file.

Facilities manager's name: _____ Signature: _____

Coach's name: _____ Date (yyyy/mm/dd): _____

Coach's signature: _____

Appendix 7: List of participants, coordinates and emergency information

Location(s) of site's telephones: _____911 Service Available Yes (_____) No (_____)

Phone numbers: Ambulance:_____Police:_____Fire Department:_____

Participant					Emergency contact person	
Name and gender (M/F/ another)	Date of birth (yyyy/mm/dd)	Address and home telephone number	Known medical conditions	Specific procedure to implement	Name(s)	Telephone number(s)

Participant					Emergency contact person	
Name and gender (M/F/ another)	Date of birth (yyyy/mm/dd)	Address and home telephone number	Known medical conditions	Specific procedure to implement	Name(s)	Telephone number(s)

Appendix 8: Sample accident report form

Report date: _____/_____/_____

yyyy/mm/dd

Patient information

Last name:	First name:
Street address:	City:
Postal code:	Phone (cell): _____/_____/_____ Phone (home, if different): _____/_____/_____
Email:	Date of birth: _____/_____/_____ yyyy/mm/dd
Gender: Female _____Male _____Another _____	
Height:	Weight:
Known medical conditions/allergies:	

Incident information

Date and time of incident: _____/_____/_____ _____ :_____ yyyy/mm/dd (AM or PM)	Time of first intervention: _____ : _____ (AM or PM)	Time that medical support arrived: _____ : _____ (AM or PM)
Charge person's description of the incident: (what took place, where it took place, what signs and symptoms the patient had)		
Patient's description of the incident: (what took place, where it took place, what signs and symptoms the patient had)		
Event and conditions: (event during which the incident took place, location of incident, surface quality, lighting, weather, …):		
Actions taken/interventions:		
After treatment, the patient was: Sent home ____ Sent to hospital/a clinic _____Returned to activity _____		

Charge person's information

Last name:	First name:
Street address:	City:
Postal code:	Phone (cell): _____/_____/_____ Phone (home, if different): _____/_____/_____
Email:	Age:
Role (coach, assistant, parent, official, bystander, therapist):	

Witness information

(someone who observed the incident and the response, not the charge person)

Last name:	First name:
Street address:	City:
Postal code:	Phone: _____/_____/_____ Phone (home, if different): _____/_____/_____
Email:	Age:

Other comments or remarks:

Form completed by:

Print full name: _____ Signature: _____

Appendix 9: Heat, humidity and cold as risk factors

Challenges of exercising in the heat

- ❑ During exercise, the muscles produce heat. This heat must be dissipated or else the body runs the risk of overheating. Overheating can result in serious, potentially life-threatening injuries.
- ❑ Sweating is a heat-dissipating mechanism of the body. When sweat evaporates, it cools off the body.
- ❑ Most sport activities lead to heat production and sweating. Sweat evaporates best when the air is dry. In moist, damp air, sweat can't evaporate easily, which makes it harder for participants to cool off.
- ❑ During vigorous activity, if the air temperature is high, participants can lose a significant amount of water by sweating.
- ❑ High temperatures and high relative humidity make it hard for the body to dissipate heat. Heavy sweating occurs, but the water lost doesn't help 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.
- ❑ While exercising in the heat, adequate hydration is a must. Participants must drink water whenever the risk of dehydration is present.
- ❑ Thirst isn't a good indicator of a need for water. In fact, dehydration has already started if a participant feels thirsty.
- ❑ In most exercise conditions, the rate at which participants lose water exceeds the rate at which they can drink and absorb water. Exercising in a hot environment accentuates this hydration gap. Therefore, participants need to drink fluids before becoming thirsty.
- ❑ Because their sweating mechanism isn't fully developed, children run a higher risk of overheating when exercising in the heat. In addition, children usually don't drink enough during exercise, especially if the drink isn't flavoured.

Steps to take to avoid heat injuries

- ❑ Give participants enough time to get used to the environment they'll face in competition. Insist on heat acclimatization. Participants should train in a similar climate for approximately 2 weeks beforehand. If that's not possible, they'll

need to adjust the duration and intensity of training and they may not be able to enter upcoming competitions.

- ❑ To protect participants (especially young children) from potentially harmful effects of ultraviolet (UV) rays, have participants do the following:
  - ○ Wear a hat or a cap with a visor.
  - ○ Wear UV-protection sunglasses.
  - ○ Wear clothes that cover the upper part of the body, neck, arms and legs.
  - ○ Use sunscreen lotion (protection factor of 30 or more) on exposed skin, including the face and hands. Reapply sunscreen regularly.
  - ○ Avoid exposing their body to the sun without effective protection when the UV index is high.
  - ○ If possible, train in the shade.
- ❑ 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 participants from drinking during a practice or competition.
- ❑ After exercise, participants should rehydrate by drinking as much fluid as thirst dictates. Participants may have to force themselves to drink.
- ❑ Beverages should be cool (8 to 10 °C) and not too sweet. Children tend to prefer flavoured sport drinks. Using such drinks encourages children to drink.
- ❑ Tell participants to bring a personal water bottle with cold fluids to each practice or competition. Inform parents about the importance of hydration and have them make sure each bottle is clean and well identified.
- ❑ Tell participants to monitor their hydration level by checking their urine. If it's dark, there isn't much of it or it has a strong smell, participants are probably dehydrated and should force themselves to drink.

Note: Pay particular attention to these steps during the first few hot days of spring or summer, when participants aren't yet acclimated to hot and humid weather.

The humidex

- The humidex is a useful 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 1 number that reflects the perceived temperature.
- Because it accounts for 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's 25 °C and the relative humidity is 70% is about the same as when it's 32 °C and the air is dry (20% relative humidity).

Humidex values linking air temperature and relative humidity

Relative humidity (%)

Temperature (°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								

Guidelines for exercising at different humidex values, provided participant is 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 isn't advised for children, older people or individuals with a poor fitness level)
○ Above 45 °C	○ Great ○ Risk of overheating even at rest	○ Extreme (exercise isn't advised for any participant)

If the humidex is above 30 °C, and especially if it exceeds 35 °C:

- ❑ Tell participants to bring extra water or sport drinks.
- ❑ During the practice or competition, ensure there will be access to water and bring a big jug of fluids.
- ❑ Tell participants to dress in loose-fitting, lightweight, light-coloured clothes.
- ❑ Plan for low-intensity activities.
- ❑ Plan for shorter work bouts, with frequent and longer pauses.
- ❑ Schedule practices for early in the morning or during the evening. Avoid the hours between 10 am and 6 pm.
- ❑ Consider changing the practice location 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.

Cold as a risk factor

The challenge of exercising in the cold

- ❑ The colder the environment, the faster the body temperature decreases.

- ❑ 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 a dry surface.
- ❑ The temperature may drop considerably once the sun has set. This drop can quickly increase the risks associated with exercising in a cold environment.
- ❑ Wind magnifies the perception of cold and increases the rate at which the body loses heat. These effects can be further amplified if the skin is wet.
- ❑ In cold weather, high humidity makes a temperature feel colder than the air temperature actually indicates.
- ❑ It's generally easier to tolerate the cold when the air is dry. However, cold and dry air makes it hard to breathe for some people with asthma.
- ❑ Skin can freeze when exposed to very cold temperatures, and circulation slows when this happens. Tissue can be damaged if frostbite is prolonged and extensive. Extremities (toes, fingers, nose, ears) are particularly at risk in cold temperatures, because the body prioritizes blood flow to central organs and tissues to maintain the body's core temperature.
- ❑ In severe cold, brain function can slow down. That increases the risk of further injury during prolonged exposure to cold.
- ❑ Compared to adults, children get cold much faster, and their skin is more likely to freeze. Additionally, people with less body fat usually have less tolerance for cold than those with more body fat.
- ❑ When muscles and other soft tissues are cold, they're more susceptible to injuries such as pulls and tears, especially during sudden and intense movements.
- ❑ In very dry, cold environments, dehydration can happen from the loss of water vapour from breathing and the evaporation of sweat from exposed surfaces.
- ❑ Wearing appropriate clothing can be a challenge when exercising in the cold. Clothes must protect against the cold, while not impairing the body's ability to get rid of heat produced during exercise. Heavy clothing can be cumbersome and may interfere with movement. Heavy clothing 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 cold and wind.
- ❑ Some fabrics (example: synthetics such as polypropylene or Gore-Tex®) can wick water from the body surface, reducing the risk of heat loss. Other fabrics trap heat (example: cotton or nylon), increasing the risk of heat loss.

Steps to take to avoid cold injuries

- ❑ 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 and breathable layer
- ❑ When it's very cold, ensure that participants expose as little skin as possible to the cold air.
- ❑ Once the body has warmed up, and if the temperature isn't too cold, consider having participants avoid excessive sweating by removing the second layer of clothing during exercise. Add a layer or use blankets to keep warm during breaks or pauses.
- ❑ Recommend that participants apply antiperspirant to their feet before they exercise to lessen sweating of the feet (which is usually followed by cooling of the feet). Those participants who tend to sweat a lot in their gloves or mitts may find that applying antiperspirant to the palm of their hands makes their hands feel less cold.
- ❑ Make sure participants hydrate properly when exercising in the cold.
- ❑ Bring children inside when they say they're cold. It isn't worth the risk to prolong exercise and have them suffer from frostbite. Once a person suffers serious frostbite, the risk of subsequent frostbite in the same area may be increased.
- ❑ Never send participants out into the cold alone or without a way of communicating with you or an emergency centre. Avoid prolonged activities in which participants are in isolated areas and risk becoming exhausted.
- ❑ When the weather is very cold and participants must train outdoors, hold your practices between 11 am and 2 pm, because these tend to be the warmest hours of the day. Be aware that the temperature drops quickly when the sun sets.
- ❑ Tell participants and their parents that when they're deciding how to dress they should consider the combined effect of cold and wind, not simply the temperature. The combination of cold and wind is called wind chill (see next section). Do the same when you make coaching decisions about what activities to do and when to do them.

- ❑ If possible, choose areas that are protected from the wind. Avoid activities in open areas.
- ❑ Ensure that participants wear protective eyewear to prevent snow reflection from damaging their eyes and to protect their eyes from the cold and the wind.
- ❑ Have participants or their parents bring a change of clothing, especially socks and underwear, to practices or competitions. Try to find a warm and protected spot to change.
- ❑ Inform participants and their parents that participants should always wear a hat when exercising in the cold. Over 30% of body heat may escape from the head. Ensure that participants cover their ears to avoid frostbite.
- ❑ It takes longer to get the body warmed up and ready for sport in cold weather than it does in warm weather. Allow additional time for warming up for training and competition.

Wind-chill factor

At certain temperatures, the 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 factor isn't a temperature in the strict sense, but a temperature-like number that quantifies the sensation of cold. It was created to help reduce the risk of frostbite and other cold- related injuries.

The wind-chill factor should be consulted before exercising in the cold, as it provides more useful information regarding the best way to dress, compared to temperature alone. The table below shows 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.

Quantifying the cold sensation that humans feel during temperature-wind combinations

Wind velocity (km/h)

Temperature (°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 the cold. Frostbite occurs faster in children. Frostbite also occurs faster if the skin that's exposed to the cold is already cooler than the skin would normally be at room temperature.

Speed at which frostbite can occur in adults

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

Appendix 10: Liability of the coach

Negligence: Actions or behaviour that fall below a reasonable standard of care.

Liability: Responsibility for the consequences of negligent actions or behaviour.

More than ever before, coaches must be aware of the risks and responsibilities, particularly legal ones, which they assume when they coach. No matter their certification, experience, employment or volunteer status, sport discipline or location of residence, all coaches are legally obligated to provide a safe environment for athletes, at all times.

To understand this obligation more fully, coaches must understand some key legal principles, including negligence and liability, as well as concepts and techniques related to risk management. With this knowledge, coaches can determine the applicable standard of care, assess their own coaching situation for risks, and establish appropriate measures to manage these risks.

Negligence

Negligence is a term with precise legal meaning. The term relates to standards of behaviour that the law expects. Understanding the law of negligence is an essential first step in learning how to provide a safe environment for athletes.

In general terms, negligence refers to a behaviour or action that falls below a "reasonable standard of care." The law in Canada demands that we behave in a particular way so that others who might be affected by our actions aren't exposed to an unreasonable risk of harm. Coaches are expected to meet an "objective" standard of behaviour. As adults and as coaches, we are all credited with the same general intelligence and sensibility, and as such the law expects each of us to behave in a reasonable fashion in similar situations.

The law doesn't expect coaches to be perfect in their behaviour. Rather, the law expects coaches to be reasonable and to act as other reasonable coaches would in the same circumstances. Therefore, negligence is the failure to exercise the care that an ordinary, reasonably prudent coach would exercise in the circumstances.

It's widely accepted that many sport activities involve a certain amount of risk. And that such risk is knowable, foreseeable, acceptable and may even be desirable,

depending on the sport. What is unacceptable in sport is behaviour that puts athletes at unreasonable risk or in danger.

A coach's conduct is negligent when all 4 of the following occur:

- ❑ A duty of care exists (such as what exists between a coach and an athlete, where the coach is placed in a position of power and trust).
- ❑ That duty imposes a standard of care, which may be found under the common law or may be imposed under legislation, that the coach doesn't meet.
- ❑ An athlete or some other person experiences harm.
- ❑ The failure to meet the standard of care can be shown to have caused or substantially contributed to the harm.

A coach must go beyond duty of care when there are reasonable grounds to suspect that an athlete is, or may be, an abuse victim and in need of protection. In such cases, a coach has the additional duty to report and the duty to act. This requires that the coach take immediate steps, which include reporting the situation to the proper authorities.

For the coach, the standard of care is the most important of the above elements. The standard of care is what the coach should do in each situation. It's difficult to precisely define standard of care, because the inherent risk of the surrounding circumstances influences the standard of care. Thus, the duty to act responsibly remains constant, but the specific behaviour required to fulfil that duty changes with the circumstances.

Determining what the standard of care is in any given circumstance involves looking to 4 sources:

- ❑ Written standards – These are government regulations, equipment standards, rules for a sport or facility, rules from a sport governing body, coaching standards and codes of conduct, and other internal risk-management policies and procedures.
- ❑ Unwritten standards – These are norms or conventions that might not be written down. They're nonetheless known, accepted, and followed in a sport, an organization or a facility.
- ❑ Case law – These are court decisions about similar situations. Where the circumstances are the same or similar, judges must apply legal principles in the same or similar ways. Earlier decisions of the court are a guide, or precedent, for future decisions where the facts are similar.

- ❑ Common sense – This means simply doing what feels right or avoiding doing what feels wrong. Common sense is the sum of a person's knowledge and experience. Trusting one's common sense is a good practice.

The responsible and prudent coach is familiar with written policies that govern coaches, is aware of unwritten norms and practices, knows something of the case law as it applies to coaches, and has learned to trust intuitive judgment and common sense.

Liability

A coach's negligence may be established when all 4 conditions of the legal definition of negligence are met. What follows next is the question of liability. While negligence refers to conduct, liability refers to responsibility for the consequences of negligent conduct. Responsibility may lie with the coach who was negligent or with another person or entity.

For example, an insurance policy transfers the financial liability for negligence to an insurance company. A valid waiver of liability agreement might eliminate liability entirely. An injured athlete may be partially responsible for personal injuries and may share liability with the negligent coach. And a sport organization may be liable for the negligent actions of its coach who is either an employee or a volunteer. Vicarious liability is a doctrine that imposes liability on an employer for employee wrongdoings.

However, vicarious liability doesn't serve to entirely eliminate the coach's own personal liability, particularly when the wrongdoing isn't connected to the coach's duties or scope of employment. Accordingly, the organization and the coach may share liability for the coach's negligent actions. It's expected that the coach will at all times be proactive in helping manage liability.

Negligence isn't the only action or behaviour that might trigger liability. Liability can also refer to responsibility for the consequences of note removal of comma - think it's ok fail to meet a predetermined legal standard, other than the standard of care in a situation where negligence occurs. Liability can arise when a law is broken, or a contract is breached. The prudent coach avoids these types of liability by obeying laws and complying with contractual agreements.

An understanding of the legal meaning of negligence answers the coach's question: How does the law expect me to behave? The follow-up question is: How can I be sure that my behaviour will meet this expectation? The answer to this question lies in risk management.

Appendix 11: Sample drills and games

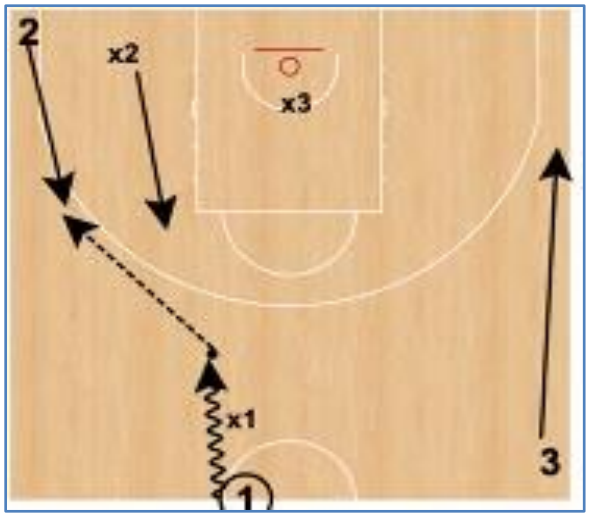
Ontario Pivot Series of gym drills

The following Ontario Pivot Series of gym drills highlight the different pivots used out of a wing catch, finishing with a game that allows players to apply what they've learned.

Each drill has a guided defender, x2, to help players learn how to make a decision when cutting to the ball. The theory is that when players are coming from the left baseline, their right eye will be on the ball and their left eye the defender. If players are less experienced, coaches can deload the drill by removing x2.

1. Back pivot shot, Phase B

In a back pivot, your pivot foot is your outside foot, and your inside foot rotates into a neutral position square to the basket. The back pivot is used to "reverse the ball."



- Player 1 dribbles with their outside hand (left) to the offensive left top and comes to an inside/outside stop.
- Player 1x will be a guided defender on Player 1 as they advance the ball to make the pass.
- Player 2 blasts to the FTLE (free throw line extended), where they will receive a shoulder pass from Player 1. To receive the pass, they must first step with their outside foot (right foot), simultaneously catching and back pivoting.
- Player 2x will play guided defence on Player 2 and close out short, allowing Player 2 to shoot.

Execute the drill from the right side of the floor.

2. Front pivot shot, Phase B

In a front pivot, your pivot foot is your inside foot, and your outside foot rotates forward into a neutral position square to the basket.

The front pivot is used to keep the ball neutral or going back to the same side it was received from.

- Player 1 dribbles with their outside hand (left) to the offensive left top and comes to an inside/outside stop.
- Player 1x will be a guided defender on Player 1 as they advance the ball to make the pass.
- Player 2 blasts to the FTLE, where they will receive a shoulder pass from Player 1. To receive the pass, they must first step with their inside foot (left foot), simultaneously catching and front pivoting.
- Player 2x will play guided defence on Player 2 and close out short, allowing Player 2 to shoot.

Execute the drill from the right side of the floor.

3. Back pivot drive, Phase B

This is where the idea of the back pivot being used to reverse the ball is even more apparent. By executing the back pivot, Player 2 will be able to drive the ball away from where the pass has come from, forcing the defence to rotate and play correct "help" defence," creating more opportunities for the offence.

- Player 1 dribbles with their outside hand (left) to the offensive left top and comes to an inside/outside stop.
- Player 1x will be a guided defender on Player 1 as they advance the ball to make the pass.
- Player 2 blasts to the FTLE, where they will receive a shoulder pass from Player 1.
- To receive the pass, they must first step with their outside foot (right foot), simultaneously catching and back pivoting (neutral step).
- Player 2x will "jam" Player 2, taking away the catch-and-shoot option. Player 2 will execute an early dribble (positive step) with the inside hand toward the baseline for a lay-up.

4. Front pivot drive, Phase B

- ❑ Player 1 dribbles with their outside hand (left) to the offensive left top and comes to an inside/outside stop.
- ❑ Player 1x will be a guided defender on Player 1 as they advance the ball to make the pass.
- ❑ Player 2 blasts to the FTLE, where they will receive a shoulder pass from Player 1.
- ❑ To receive the pass, they must first step with their inside foot (left foot), simultaneously catching and front pivoting (hips turn) into a positive step and dribble.
- ❑ Player 2x will "jam" Player 2, taking away the catch-and-shoot option. Player 2 will execute an early dribble with the outside hand toward the baseline for a lay-up.

Games approach

Coaches will set players up with 3 on offence at the half-court line, simulating conversion, and the remaining players as defenders on the baseline.

- The offence will advance the ball toward the basket in lanes.
- The offence will be required to make a minimum of 5 passes before they score, with the condition that if a defender over–denies, the offence will be required to back-cut.
- If the offence scores, they will stay on offence, sprint to the sideline pylons and prepare for a new set of defenders to enter from the baseline.
- If the offensive players do not complete a pivot within their possession, their "score" will not count, and the defensive team will move to offence.

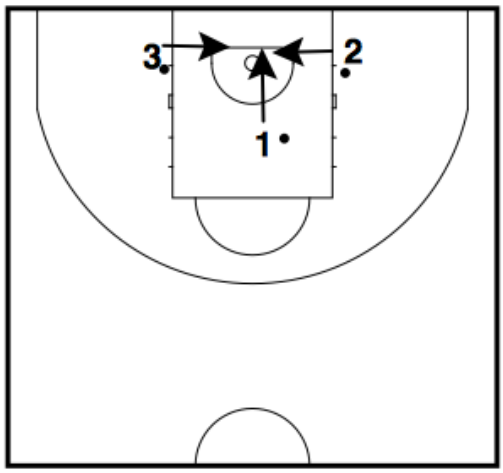
Shooting

The following drills take you through the fundamentals of shooting and guide coaches through the phases of skill development. Players will begin by focusing on the fundamental movement of the skills (On-Up-Out) and then gradually apply the act of shooting in game situations.

We will explore 3 types of shots:

1. Catch and shoot: Feet stationary, no hop or feet movement
2. Hop catch: Hop before catching and jump, landing on two feet
3. Pivot: Either front- or back-pivot into a square position for a jump shot

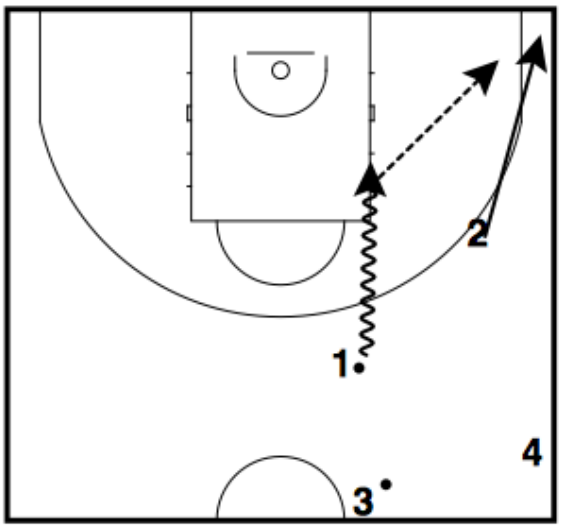
Form shooting



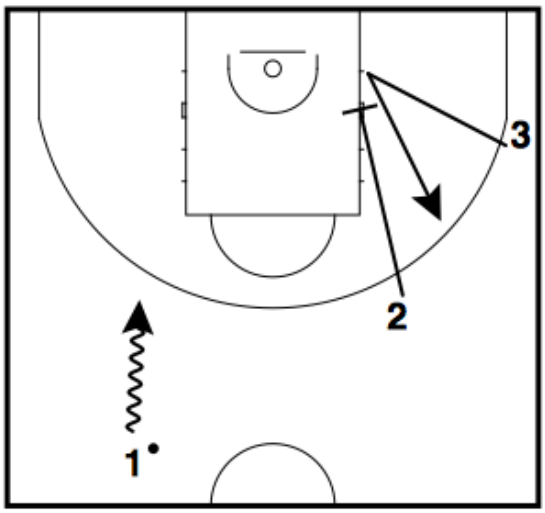
- Coaches divide players into groups of three, send groups to baskets and position them with one in front of the basket and two on either side of the lane.
- Player 1 will perform a self-toss with their feet already set and complete their shot. Once they've shot, they will get the rebound and go to the line behind Player 2. Player 2 will self-toss and shoot once Player 1 has cleared and then go behind Player 3 and repeat this process.
- Load 1: Players will self-toss into a two-foot hop then shoot.
- Load 2: Players will self-toss and perform an inside/outside stop (inside being the foot that aligns with the shooting hand) and then shoot.

Shooting on the move

- ❑ Coaches will put players into two lines with Player 1 having the ball.
- ❑ Player 1 will outside drive using their outside hand getting into the paint.
- ❑ At the same time, Player 2 will move down to the baseline (within their shooting range), ready to receive the pass from Player 1 to perform a hop catch and shot.
- ❑ Do the drill on both sides of the floor.



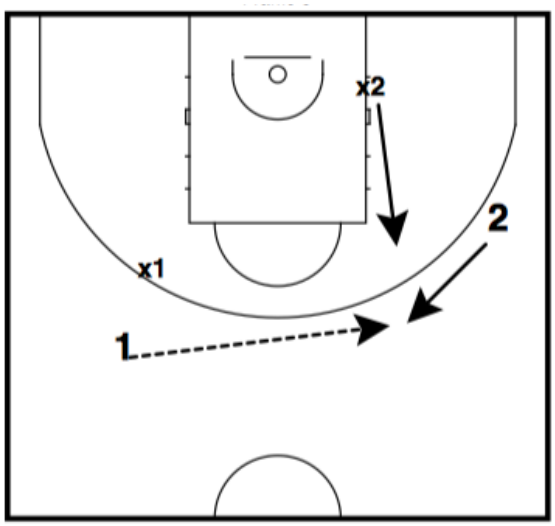
Shooting on the move with a screen



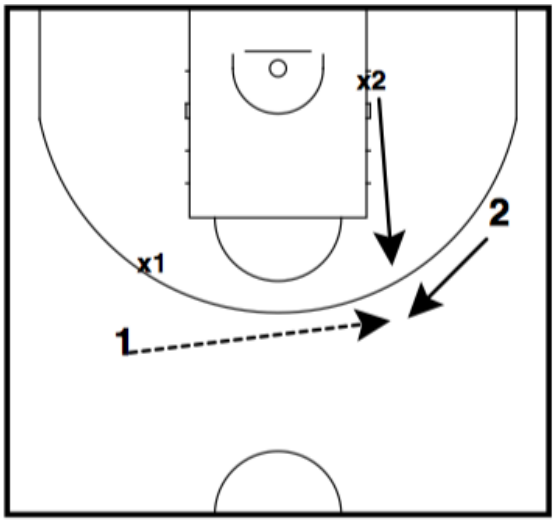
- Coaches will set up three lines in the half-court with 1 player with the basketball on the left and the other 2 players on the opposite side of the floor.
- Player 1 dribbles with their outside hand to the 3-point line. At the same time, Player 2 performs a rim cut, making their defender honour their cut, and Player 3 does the same from the wing.
- At the end of the cut, Player 2 will set a screen for Player 3, who will use the screen. Player 1 will come to an inside/outside foot stop, shift the ball to their inside hip and perform a shoulder pass to Player 3, who has come off the screen ready to shoot.
- Do the drill on both sides of the floor.

Decision-making shooting

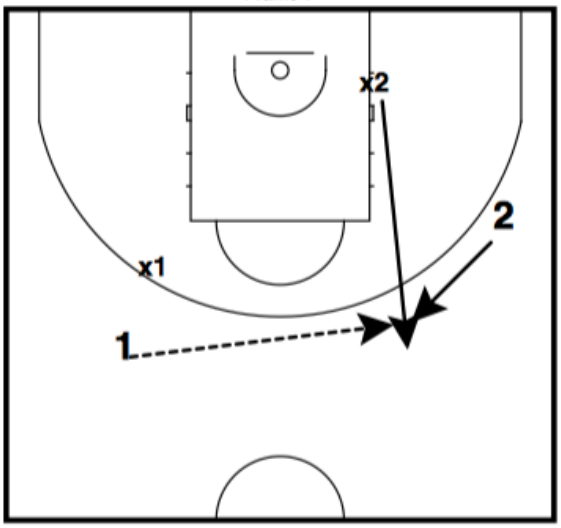
- Coaches will set players up similar to the configuration in the diagram to the right with 2 offensive players (1 & 2) and 2 defenders (1x and 2x).
- The defenders (1x & 2x) will put light pressure on the offensive players under the following conditions:
  - Close-out short: Making Player 2 receive the pass and read the defence, knowing that shooting is their best option (see diagram to the right).



  - Close-out mid: Making Player 2 receive the pass and read the defence, knowing that driving to the basket is their best option (see diagram below).
  - Close-out long: Player x2 will lunge for the steal, creating a lane

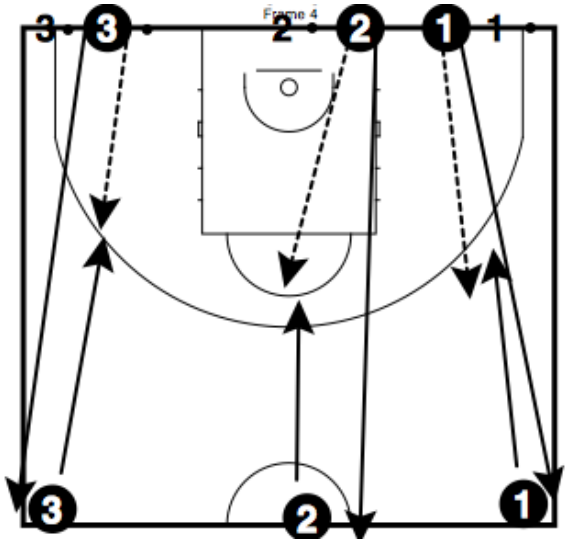


for player 2 to attack the rim (see diagram below).



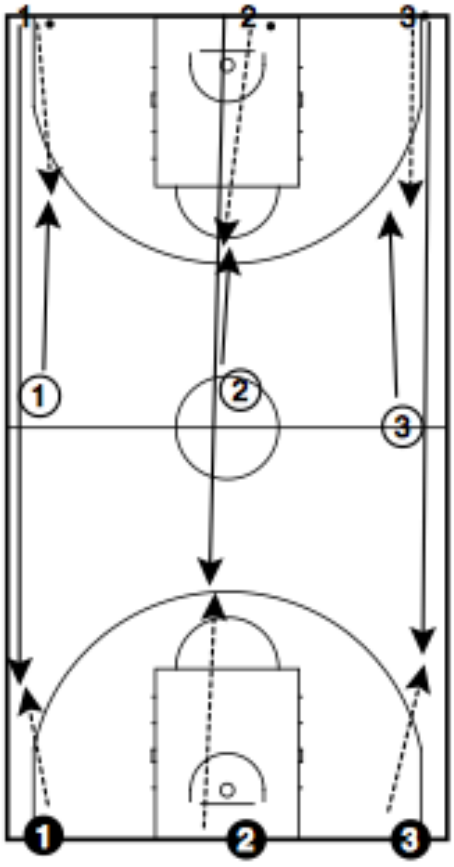
- Coaches will then have the drill go "live," allowing x2 to decide how they want to defend the catch.

Games approach to shooting: 6-line shooting



- Coaches will line up 3 players with a basketball across the baseline and 3 players across from them at the half-court line without a basketball.
- The players at half-court will run into their shoot range looking for the pass from the player on the baseline. The player receiving the pass will take their shot, get the rebound and go to the back of the passing line. The passer, after completing the pass, will sprint to the back of the shooting line.
- Each line will make as many shots as they can in 2 minutes, competing against the other two lines. At the end of 2 minutes, the teams will rotate to their left and compete for another 2 minutes. Repeat until all teams have shot for 2 minutes at each spot.

9-line shooting load

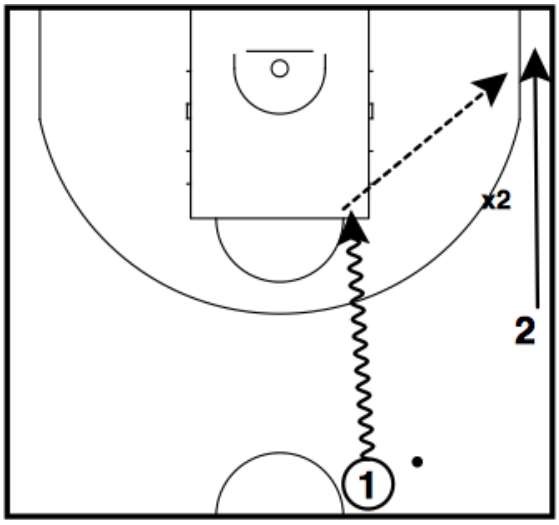


- Using the set-up for 6-line shooting, coaches will put 3 players on both baselines and across the middle of the floor. This drill is great for pairing conditioning and shooting.
- Players on the baselines will have basketballs. When the coach says go or starts the clock, players in the middle will run toward the baseline and receive a pass from their teammate for the shot. They will get their rebound and go to the back of the line the just received a pass from. The passer will then run the length of the court to receive a pass from their teammate, who is waiting on the opposite baseline.
- Players will repeat this for 2 minutes, keeping track of how many shots their team makes. After 2 minutes, teams will move one line to the left and compete again for another two minutes.

Passing

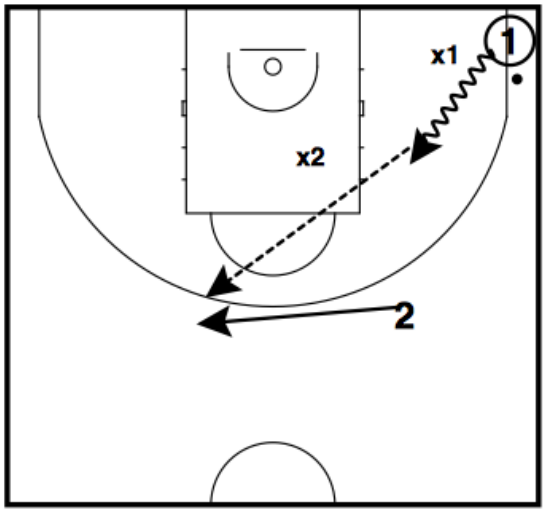
The following drills isolate a shoulder, pocket and overhead pass from both a situation off the bounce and off a cut/catch.

Shoulder pass 1: Zoom cut



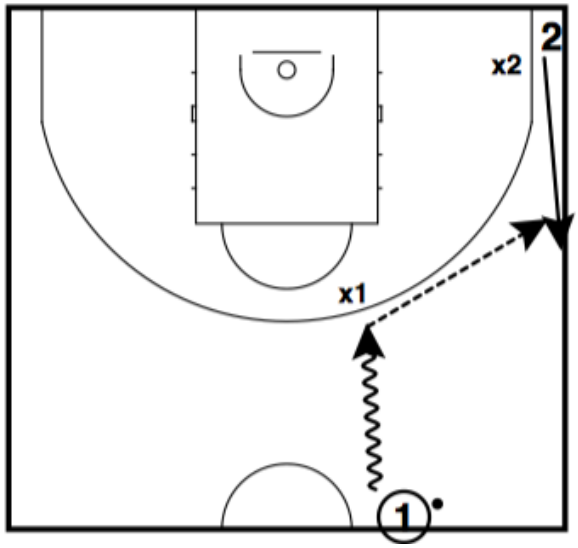
- Coaches will start players at half-court. Player 1 will have the basketball closer to the middle of the floor, while Player 2 will be without the basketball on the sideline.
- Player 1 will outside-drive, while Player 2 will sprint down to the baseline, behind the 3-point line.
- When Player 1 arrives at the elbow, they will perform a 1-2 stop, placing the foot closer to the middle of the floor, in this case the left foot, down. Player 1 will use their right foot as the pivot foot and take a positive step, using the resulting momentum to make the shoulder pass to Player 2.
- Repeat on the left side of the floor. Player 1 will make their pivot with the right foot then left and push the pass using their left arm as the dominant force.

Shoulder pass 2



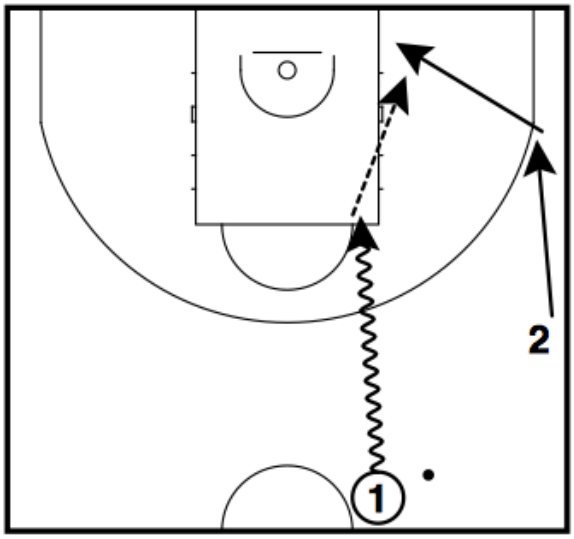
- Players begin on the baseline and the wing. Player 1 will be on the baseline with the basketball, Player 2 will be without a basketball in the wing spot.
- Player 1 will dribble toward the elbow, while Player 2 moves around the 3-point line to create space between them. Once Player 1 arrives at the elbow, they will perform a 1-2 stop using their inside foot (right) and their left foot as the pivot foot and take a positive step, using the resulting momentum to make the shoulder pass with their left arm to Player 2. Defenders (1x and 2x) will be in the drill to be guided defence and put pressure on the passer.
- Repeat on the left side of the floor. Player 1 will make their pivot with the left foot then right and push the pass using their right arm as the dominant force.

Shoulder pass 3: Blast cut



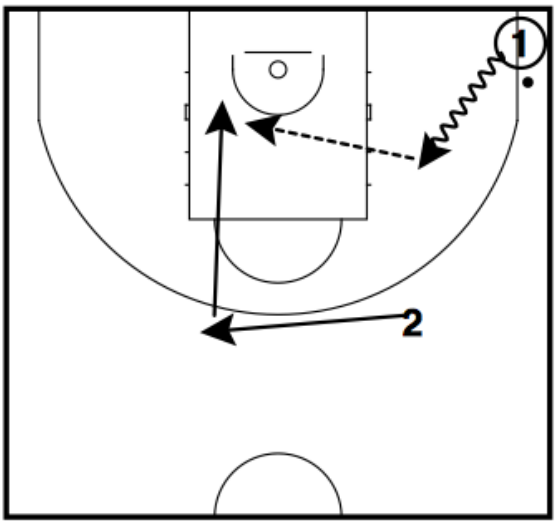
- ❑ Coaches will have 1 player at the half-court line with the basketball, with another player starting at the baseline.
- ❑ Player 1 will outside-dribble to the 3-point line and come to an outside inside stop (left-right). As Player 1 is dribbling forward, Player 2 will make a blast cut from the baseline to the wing.
- ❑ As Player 2 is blast-cutting, Player 1 will use the momentum from their outside inside stop, and perform a shoulder pass with their right arm, finishing with a snapping right wrist.
- ❑ Repeat the drill from the left side of the floor

Pocket pass 1



- Coaches will set players up much as they did for the drill *Shoulder pass 1*, with Player 1 at half-court with a basketball and Player 2 slightly ahead on the sideline.
- Player 1 will dribble with their outside hand, attacking the basket, while Player 2 performs a zoom cut. When Player 1 gets into the paint, Player 2 will make a back cut to the rim. As this happens, Player 1 comes to a staggered stop and executes a pocket pass by bouncing the ball under the defence, snapping their wrist to finish the pass.
- Repeat on the left side of the floor.

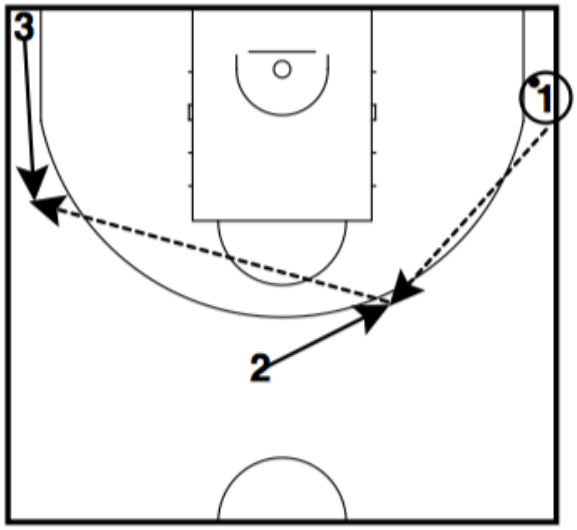
Pocket pass 2



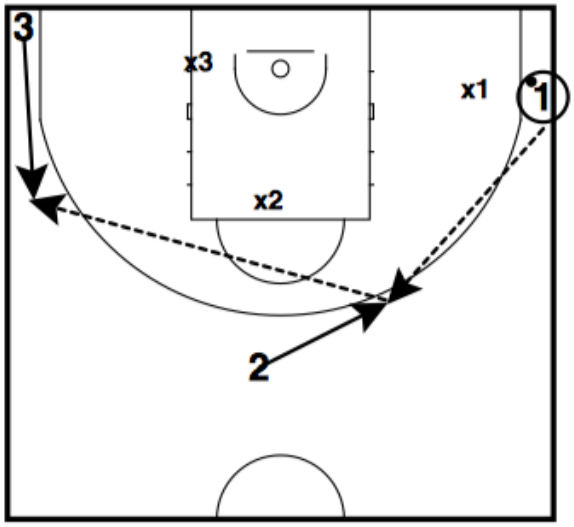
- Coaches will set players up much as they did for the drill *Shoulder pass 2*, with Player 1 on the baseline with a basketball and Player 2 outside the 3-point line at the top on the right-hand side of the floor.
- Player 1 will perform a middle drive using their inside hand. At the same time, Player 2 will move to the outside-lane line and back-cut to the rim.

  As the back cut happens, Player 1 comes to a staggered stop and executes a pocket pass by bouncing the ball under the defence, snapping their wrist to finish the pass.
- Repeat on the left side of the floor.

Overhead pass



- Coaches will position players on the wing, baseline, and top.
- Player 1 will start with the basketball in the shot pocket on the right wing. Player 2 will start in the middle of the floor and Player 3 will be positioned on the baseline.
- Player 2 will cut toward the ball. At the same time, Player 1 will rip the ball from the shot pocket to over their head and pass the ball to Player 2. While this action is happening, Player 3 will blast-cut from the baseline to the wing.
- Once Player 2 has received the pass, they will back-pivot, keeping the ball in the shot pocket, and then bring it up over their head, performing an overhead pass to Player 3.
- Repeat this drill on the left-hand side of the floor.



- Coaches will then add defence to the drill.
- Offensive players will need to read the defence to make the correct pass for how the defence is playing.
- If the defence comes with hands:
  - UP — players will need to make a pocket pass or a shoulder pass
  - DOWN — players will need to make an overhead pass or a shoulder pass
  - OUT — players will need to make a pocket or overhead pass

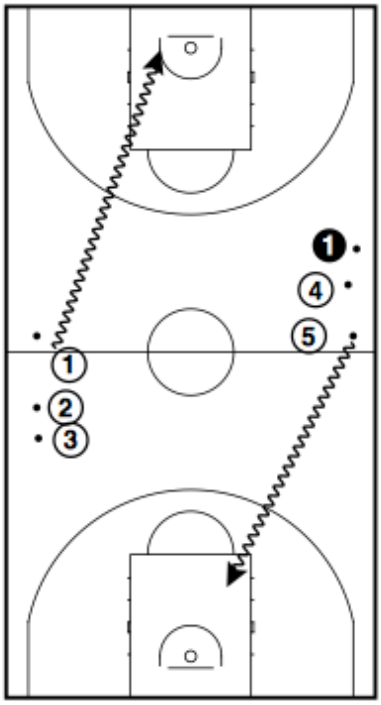
Games approach — 20 passes

- ❑ Coaches will split their players into 2 teams of 4 players.
- ❑ One team will begin with the ball and try to make 20 consecutive shoulder, pocket or overhead passes among their teammates without dribbling, travelling or fumbling the ball.
- ❑ Players can blast cut, zoom-cut, back-cut and move into space to try to get open. To maintain the integrity of proper spacing, players on offence are allowed to cut only where a pylon is positioned on the court, avoiding spaces where flags are located.
- ❑ The offensive team can win the game by making 10 consecutive passes or score off a back-cut lay-up without a dribble.
- ❑ Meanwhile, the defensive team will be trying to deflect, intercept and/or put pressure on the offensive team.
- ❑ If the ball is dropped or intercepted, or the offensive team travels or dribbles, the other team immediately grabs the ball and starts to pass with their team.
- ❑ Load options:
  - ○ Teams must complete 15 consecutive passes to win.
  - ○ Teams must complete 20 consecutive passes to win.
  - ○ Offensive players can take a 2-dribble max. With the 2-dribble max comes the opportunity to win the game on a catch and shoot or a hop catch for a 3.

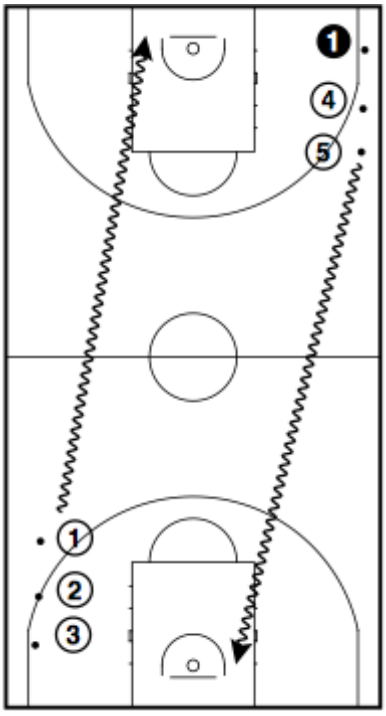
Dribbling

The following drills will highlight its importance.

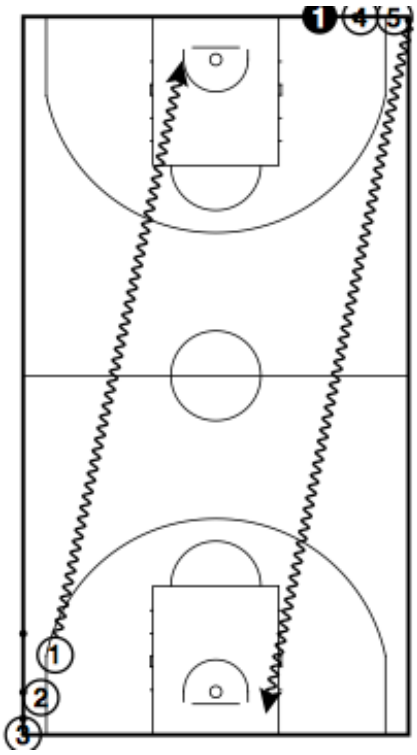
Drill 1: 3-4-6 dribble drill



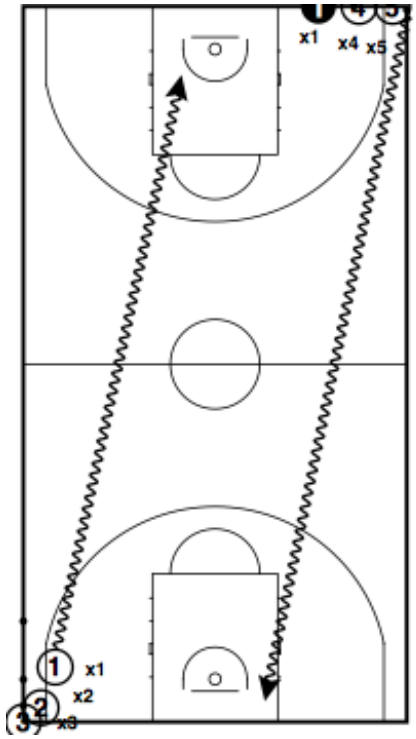
- Coaches will divide their team into 2 groups and position 1 group at the half-court line facing 1 hoop, the other group on the other half-court line facing the other hoop; all players will have a basketball.
- Player 1 and Player 5 will start with a live dribble with their outside hand (left for Player 1, right for Player 5). They will then have 3 dribbles with their outside hand to get to the basket and perform a correct outside-inside lay-up.
- Once they've completed their lay-up, they will get their rebound and outside-dribble to the end of the opposite line.
- Load 1: Coaches will move the players' starting point to their own free-throw line. Players will now have 4 dribbles with their outside hand to get to the basket and perform an outside/inside lay-up.



- Load 2: Coaches will move the players' starting point to the opposite baseline. Players will now have 5-6 dribbles with their outside hand to get to the basket and perform a lay-up.

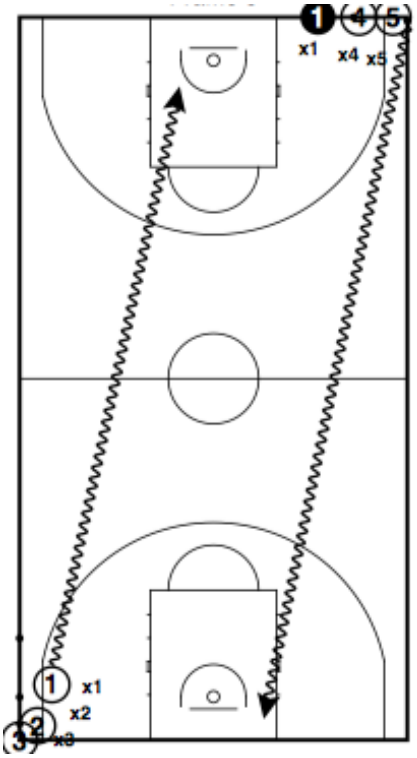


Drill 2: 6-dribble KOB (keep on back)



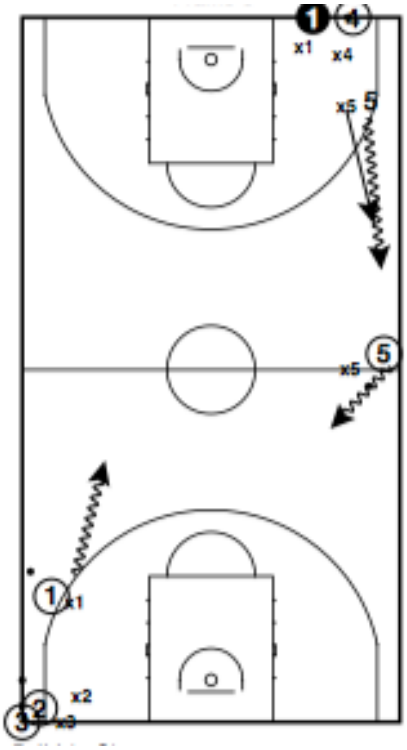
- Coaches will divide their team into 2 groups and position 1 group at each baseline. Within their groups, players will be matched-up with an offensive and defensive player, with the offensive player with the basketball.
- Offensive players will start with a live dribble and then have 5-6 dribbles with their outside hand to get to the basket and perform a lay-up. The goal of the offensive player will be to keep their defensive player on their back/hip. The defensive player will put pressure on the offence the entire way down the floor, maintaining shoulder-to-shoulder and hop-to-hop contact until the opposite three-point line. Once they make it to this mark, the defensive player will attempt to strip the ball away from the offensive player. The offensive player will attempt to protect the ball and do a lay-up.

Drill 3: 6-dribble chase



- ❑ Coaches will divide their team into 2 groups and position 2 group at each baseline. Within their groups, players will be matched-up with an offensive and defensive player, with the offensive player with the basketball.
- ❑ Offensive players will start with a live dribble and will have 5-6 dribbles with their outside hand to get to the other side of the basket and perform a lay-up. The defender will be positioned 1 metre away and will attempt to tip the ball away from the dribbler with their inside hand.
- ❑ At the end of the drill, the player who made the lay-up will get the rebound and dribble to the end of the line on the other side of the court. Offensive and defensive players will then switch.

Compete 6-dribble chase



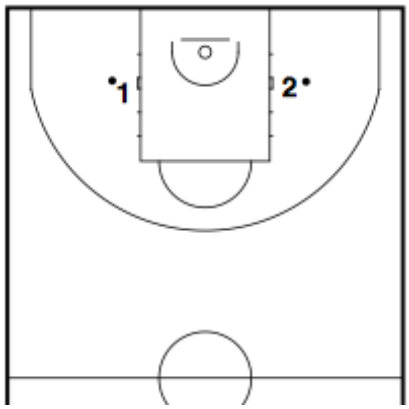
- ❑ The coach will set players up as shown in the diagram. There will be 1 offensive player and 1 defensive player on each baseline prepared to attack the opposite basket.
- ❑ The offensive player (1 and 5) will attempt to maintain KOB with their defensive player until half-court when the possession becomes "live." At that time the defensive player will attempt to stop the offensive player from getting to the basket by using legal guarding positions.
- ❑ Offensive players will make their read based on the following:
  - ○ Defence maintains KOB — Full-speed lay-up.
  - ○ Defence gets to a square position — Offensive players will cross over and attack with their inside hand.
  - ○ Defence gets to the offensive players' outside hand or pokes the ball — Offensive player will either go through the legs or behind the back and attack the rim with their inside hand.

Finishing

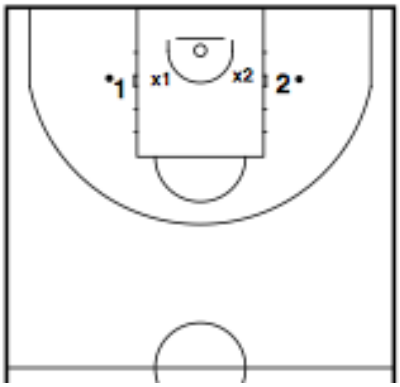
The following drills will focus on the fundamental lay-up steps. These drills will highlight the need for coaches to work with players on developing footwork in tight spots using balance, coordination and agility.

Drill 1: Lay-up progression

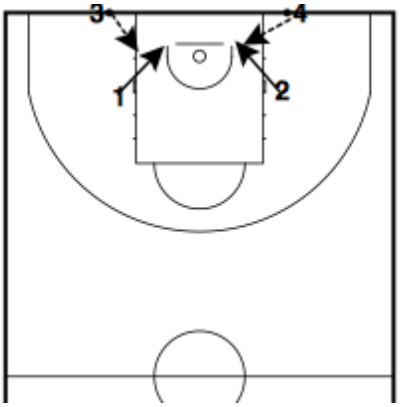
Lay-up



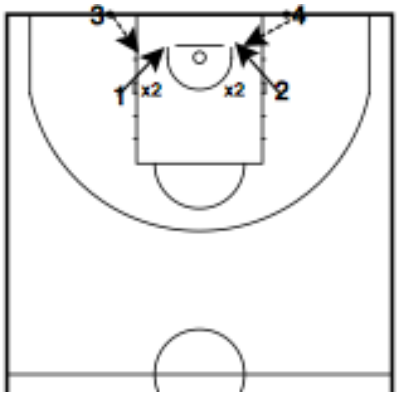
- ❑ Coaches will first line their players up on the right and left sides of the floor, around the block, each with a basketball.
- ❑ Players will perform an outside/inside/up lay-up with NO dribble. While players are performing their steps, ball placement is important.
  - ○ Outside step — Ball on the hip
  - ○ Inside step — Ball brought up to the shoulder
  - ○ Up/Shot release — Bicep to the ear, ball is released
- ❑ Coaches can add a guided defender to the drill to encourage players to protect the basketball when performing their steps.



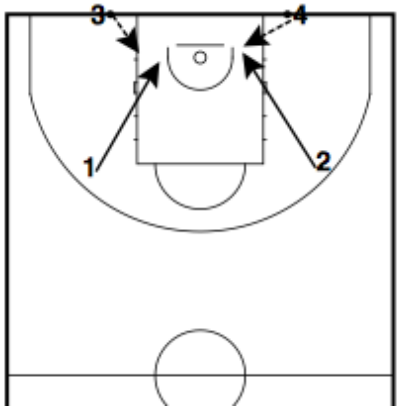
Lay-up steps off the bounce pass



- ❑ Coaches will set up as for the lay-up but add 2 players on the baselines who will have basketballs.
- ❑ Player 3 will bounce pass to Player 1, and Player 4 will bounce pass to Player 2. Player 1 and Player 2 will receive the pass while simultaneously stepping with their outside foot, then finishing the lay-up with the inside step and up.
- ❑ Coaches can add a guided defender to the drill to encourage players to protect the basketball when performing their steps.



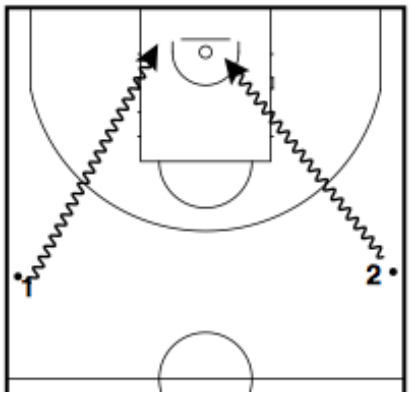
Lay-up steps on the move and catch

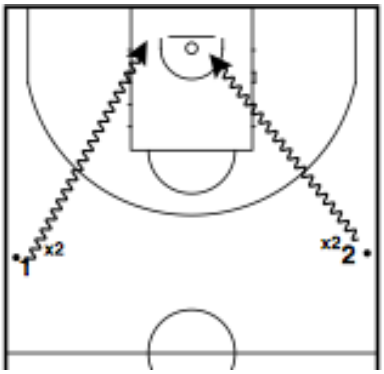


- ❑ Coaches will set up players the same as they did when receiving the pass but Players 1 and 2 will be out at the FTLE.
- ❑ Players 1 and 2 will run toward the basket and receive the pass. Once they have received the pass, they will perform an outside/inside one-foot lay-up at the rim.

Dribble to lay-up

- ❑ Coaches will set players up just inside of the half-court line on the right and left side of the floor. All players will have basketballs.
- ❑ Players at the front of the line will begin with a live dribble and then have two dribbles to get to the rim and perform an outside/inside lay-up.
- ❑ Players will get their rebound and dribble with their outside hand to the opposite line.
- ❑ Coaches will then add a defender to the two-dribble lay-up, forcing the offensive player to make the read on how to finish at the rim.

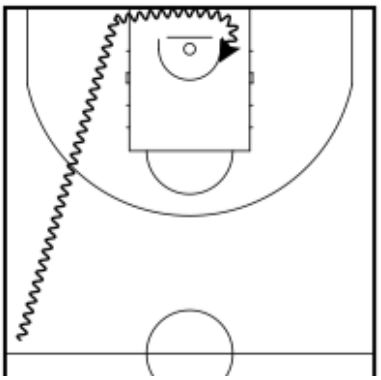




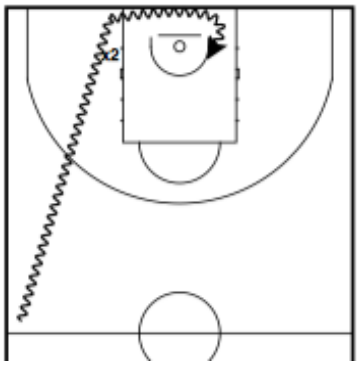
Drill 2: Reverse lay-up

- Coaches will start players just inside the half court line, with a basketball and a live dribble.
- Players will then take 2 dribbles with their outside hand to get to the rim. They will then perform a crossover dribble followed by a dribble with their new outside hand and perform a lay-up, finishing on the opposite side of the basket.
- Coaches should follow a 3:1 ratio, weak hand to strong hand.
- Coaches can add a guided defender to the drill to encourage players to protect the basketball when performing their steps.

Drill 3: Lay-back

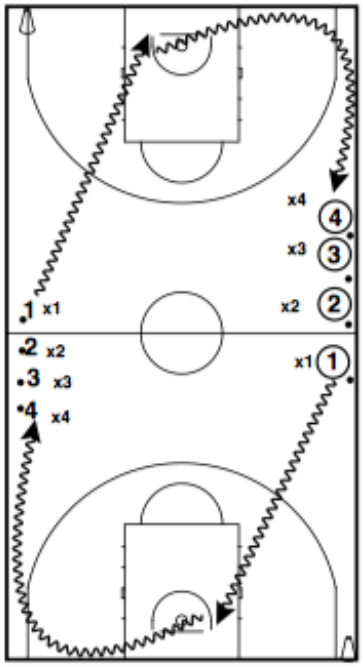


- ❑ Coaches will start players just ins ide the half-court line, with a basketball and a live dribble.
- ❑ Players will take 2 dribbles to the ball-side block, using their outside hand. They will then take 1 dribble around the rim (travelling under the hoop) and perform the outside/inside steps to a lay-up finishing over the shoulder.
- ❑ Coaches should follow a 3:1 ratio, weak hand to strong hand.



- ❑ Coaches can add a guided defender to the drill to encourage players to protect the basketball when performing their steps

Whitby lay-up challenge



- Coaches will divide their teams into 2 groups and place them at either half-court or the baseline. Coaches can use reversibles or pinnies to identify each team.
- From the half-court players will have 3 dribbles to get to the basket for a lay-up; from the baseline they will have 5 or 6. Coaches can use "rules" like the following to determine the winners:
  - First team to make 20* CORRECT lay-ups
  - First team to make 20* CORRECT reverse lay-ups
  - First team to make 20* CORRECT lay-back lay-ups
- Coaches will add defensive players to the drill to attempt to stop the offence from scoring. Offensive players will need to make decisions on the finish to use based on what their defender has done. Coaches can award points to legal guarding position or change their scoring.

*Coaches can also give players a time limit and the team that makes the most lay-ups in that time will win.

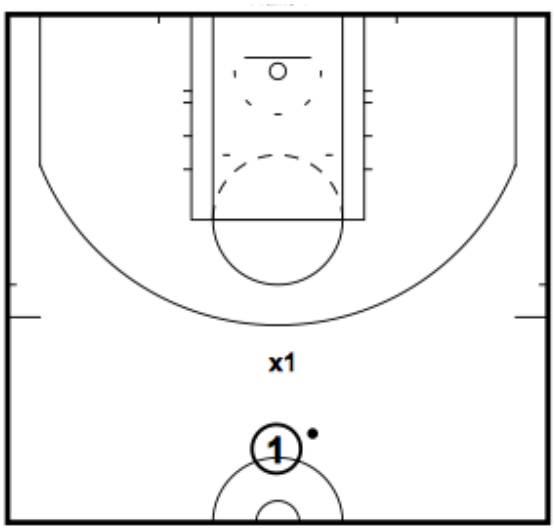
*Coaches can penalize defensive teams by subtracting a point for fouling their offensive matchup.

Defence

The key concepts in defence are:

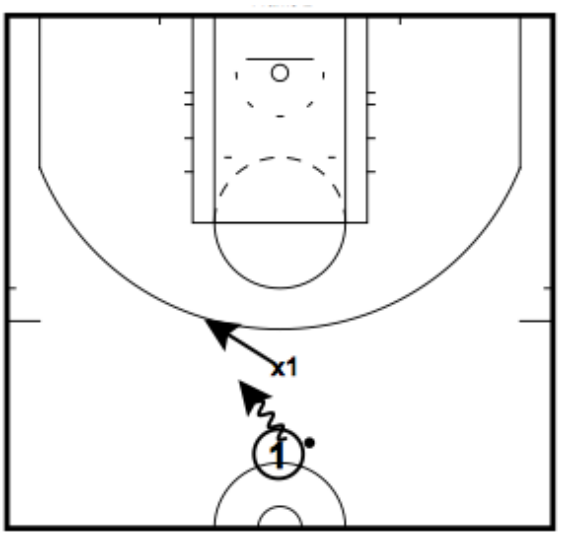
- ❑ Line of the ball: The line that joins the ball and the closest offensive person
- ❑ Check: Person you are guarding
- ❑ Ready position: knees bent, on the balls on your feet, ready to move
- ❑ Defensive positions might include:
  - ○ On-ball: you are guarding the player who has possession of the ball
  - ○ Support: your check is one pass away from the player with the ball
  - ○ Help: your check is at least two passes away from the player with the ball

On-ball defence



- ❑ The defender (x1) assigned to the ballhandler tries to stay in front of the dribbler and maintain a square position.
- ❑ The on–ball defender tries to maintain a distance of 1 metre from the dribbler as the dribbler attempts to "go by" them.
- ❑ The defender constantly moves their feet while in the Read Position.

  The arms should be extended out and away from the defender's body until the offensive player attempts to shoot the ball, at which point the defender will rise up, without leaving the feet, from their athletic position and place a hand in the area in front of the shooter's nose. The defender's weight should be on the balls of their feet (not their heels), and their feet should be about shoulder-width apart. The defender's knees should be bent and the back straight. The defender keeps their head up, eyes forward, arms out with their palms up and elbows bent a little.
- ❑ One of the goals on defence is to keep the player back facing the baseline.



Support or One Pass Away

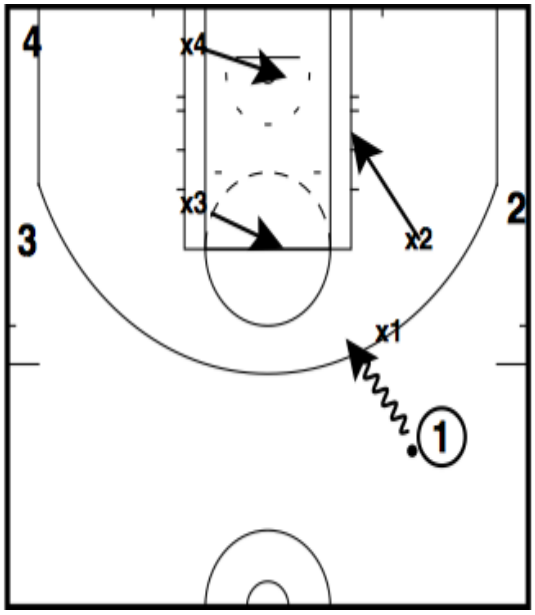
- When defending a player who is one pass away from the ball, the support defender will play below the line of the ball and midway between the ball and their "check".

Help or Two Passes Away

- When defending two passes away on the opposite side of the rim line, the help defender, 3x is the “base” position, will play below the line of the ball and below their check. In this instance, “base” will have 1 foot in the paint, prepared to help in the event of a dribble penetration.

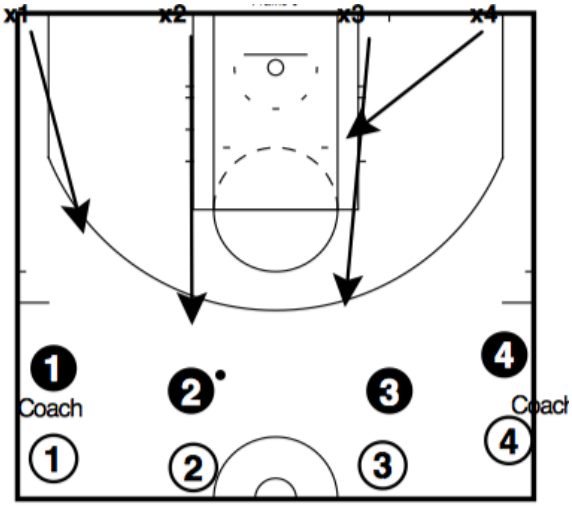
Outside drive 4-player set

- Coaches will set up 4 players on offence and 4 defensive players that will start in defensive positions based on the location of the ball.
- When defending two passes away on the opposite side of the rim line, the help defender will play below the line of the ball (dig) and below their check. In this instance Base (x3) will have 1 foot in the paint, prepared to help in the event of a dribble penetration.



Compete 4-on-4

- Coaches will divide the team into groups of 4. Offensive players will start at the half-court line and defence will start on the baseline.
- The Coach will pass the ball to 1 offensive player; the defence will need to come out onto the floor into correct positions based on where the ball is located. Once the ball has been passed to the offensive player the drill is live.
- Coaches can set goals for defensive players such as:
  - A secured rebound
  - Secured rebound and outlet pass
  - 3 stops in a row
  - 3 stops total, etc.



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