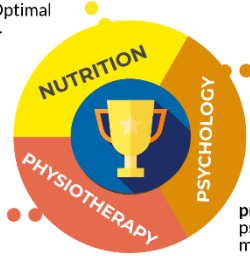
10th ASEAN School Games

Coaches' Handbook

Sports Science For Optimal Performance

Maximal Training Gains

A youth athlete is like a car. Optimal fuel makes the car run better. Likewise, eating **necessary types** of nutrients at an **ideal time** and in **adequate amounts** can help the athlete perform and recover better.



Optimal Mental State

Equipping youth athletes with essential **mental skills** helps them combat **anxiety**, **negative self-talk** and **pressure**. This prepares them well psychologically and puts them in the best mental state to perform.

Injury Risk Mitigation

Sports injury in youth athletes are largely due to physical and physiological aspects of growth and **overload (i.e overuse)**. **Timely and comprehensive** injury **prevention** and **management** can prolong the sporting lifespan of a youth athlete.

Icons used were made by RoundIcons, Freepik, Ddara, Becris from www.flaticon.com

EXECUTIVE SUMMARY

Sports Science For Optimal Performance

TRAINING/ COMPETITION	NUTRITION	PHYSIOTHERAPY	PSYCHOLOGY
BEFORE	• Eat adequate carbohydrates according to training intensity • Drink sufficient fluids to ensure hydration	• Effective warm-up	• Set simple process and performance goals • Use imagery to focus • Know how to, and how much to relax/ activate

DURING	• Refuel with simple carbohydrates for moderate-high intensity > 60 min
	• Rehydrate according to fluid needs
	• Replenish electrolytes when needed
		• Targeted, regular strength and conditioning incorporated into training regime	• Use cue words to refocus
			• Smile
			• Breathe:
			  • 4 seconds in,
			  • 7 seconds hold,
			  • 8 seconds out

AFTER	• Carbohydrate and protein as soon as possible (immediately up to 2h post) • Protein in 20g doses • Replenish fluid losses • Fruits & vegetables for enhanced tissue repair	• Adequate recovery • Twin principles of P.OL.I.C.E and H.A.R.M to self-manage acute minor injuries	• Progressive muscular relaxation • Imagery • Breathing exercises
TOOLS	• Recovery Tube • Recovery Bottle	• No special tools needed. Just your standard issue foam roller and trusty trigger ball	• Mental Skills Toolkit

Icons made by RoundIcons, Freepik, Ddara, Becris from www.flaticon.com

NATIONAL YOUTH SPORTS INSTITUTE

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COACHING PHILOSOPHY

Identifying Your Coaching Philosophy

Youth coaching is a noble profession! As you coach your young athletes, you have the power to design and define their sporting experience. Developing athletes also require personal development that may occur through their sports. Hence, effective coaching is also about developing better individuals and creating a positive youth development experience. One way to develop better individuals is through **transformational leadership behaviours** that have been associated with positive athlete outcomes such as athlete satisfaction, performance and intrinsic motivation.

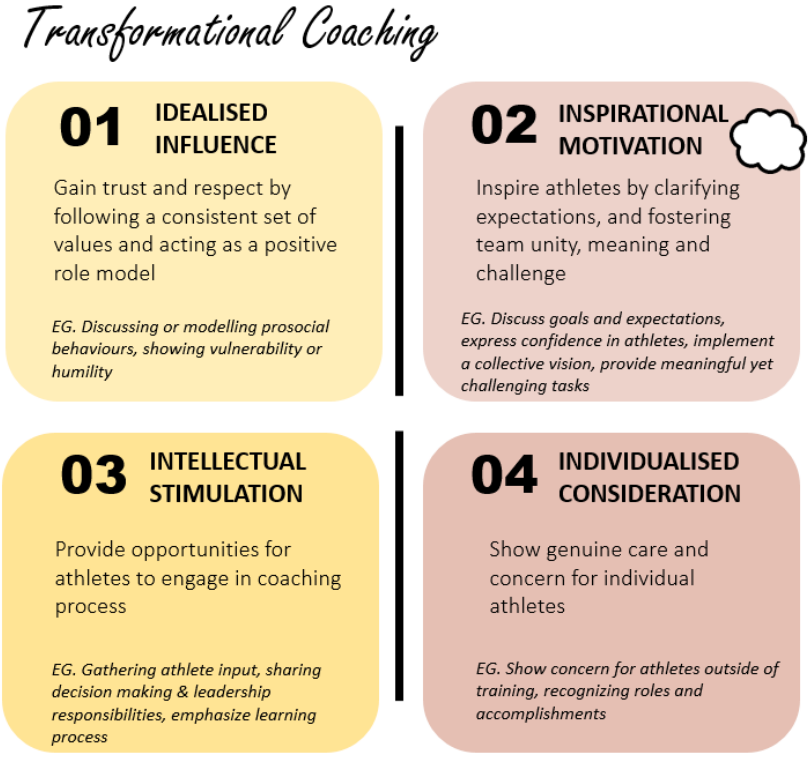


Figure 1. Dimensions of Transformational Coaching. Adapted from Turnnidge, J., & Coté, J. (2017).

To start, how do you feel about yourself as a transformational coach? The activity below lists some of the behaviours of transformational coaches. Circle the ratings of those that you think your athletes will use to describe you.

Self-Evaluation of Coaching Behaviours

Behaviours	Low	Average	High	Can be improved?
1. Discuss prosocial behaviours - good sportsmanship, respecting opponents etc.	1	2	3	☐
2. Show humility / vulnerability - getting them to keep their equipment when they are done.	1	2	3	☐
3. Discuss goals / expectations with your athletes	1	2	3	☐
4. Express confidence in athlete potential - communicating this faith in them by telling them, giving them a high five.	1	2	3	☐
5. Promote team concept - one for all, all for one.	1	2	3	☐
6. Provide rationale / explanation - explaining the reason for punishment or intended outcome of drills.	1	2	3	☐
7. Elicit athlete input - hearing from the athletes themselves regarding things during and outside of training.	1	2	3	☐

Behaviours	Low	Average	High	Can be improved?
8. Share decision making / leadership responsibilities - give athletes decision making opportunities and reinforce that not only the captain has leadership responsibilities, everyone has a part to play.	1	2	3	☐
9. Emphasise the learning process - it's ok to make mistakes, allowing them to learn how to deal with failure.	1	2	3	☐
10. Show interest in their lives outside sport.	1	2	3	☐
11. Recognise accomplishments - giving praise when deserved, having awards like "most optimistic player".	1	2	3	☐

(Transformational Coaching, 2006)

As you evaluate your coaching assets, here are some essential questions for you to think about, to ensure that you keep track of why you are a successful coach:

1. What do I want to achieve with my athletes?
2. What is my motivation for coaching?
3. What is my coaching style?

Notes:

As you think about these questions, identifying your coaching philosophy is important because it will guide your coaching style. Every coach's philosophy is unique. It is shaped by your personal values and experiences in the sport. Here are some important questions to think about, to help crystallise your coaching philosophy:

1. Why am I coaching?
2. Who am I coaching?
3. What kind of coach do I want to be?

Notes:

Why Do You Coach?

It could be the thrill of winning, money, to develop young talents, etc. The reasons are many, and sometimes our reasons change as well. The following exercise helps you identify what is important to you as a coach, and perhaps, can help you reconnect with the reasons why you first chose coaching as a career.

Instructions: Rank each of the following groups of statements, using:
1 – least important, 2 – second important, 3 – most important.

Assessment Statement	Rank
The best coaches are those who	
A. Encourage team spirit, cooperation and sportsmanship	
B. Make practices fun	
C. Have excellent competition tactics and skills to win	
A good coach	
A. Gives individual help and is interested in athlete development	
B. Practices enthusiasm and FUNdamentals everyday	
C. Teaches athletes the skills needed to win	
I would like people to say that I . . .	
A. Brought the best out of my athletes	
B. Looked for the positives in my athletes	
C. Am a winning coach	
I would like a news story about me to highlight that I . . .	
A. Coached a sports program which athletes enjoyed playing	
B. Contributed to the athletic development of athletes	
C. Coached to win	

As a coach, I emphasize	
A. Teaching skills that athletes can use throughout life	
B. Playing games and making sure athletes enjoy themselves	
C. Setting individual and team goals to produce winners	
As a coach, I promote	
A. Physical fitness	
B. Having fun	
C. Winning	

	TOTAL SCORE
A	
B	
C	

Scoring Instructions

1. Add the numerical rank value of all the A statements in each group.
2. Do the same for the B and C statements.

An example of how to score the questionnaire can be found on the next page.

The best coaches are those who	
A. Encourage team spirit, cooperation and sportsmanship	3
B. Make practices fun	2
C. Have excellent competition tactics and skills to win	1
A good coach	
A. Gives individual help and is interested in athlete development	2
B. Practices enthusiasm and FUNdamentals everyday	3
C. Teaches athletes the skills needed to win	1

A	3 + 2 + …	TOTAL:
B	2 + 3 + …	TOTAL:
C	1 + 1 + …	TOTAL:

The one that gives you the lowest score will be your coaching preference.

Results:

The column with the lowest total is the area that is most important to you in coaching and will be the foundation of your coaching philosophy and objectives. Let's see below:

If you score lowest in…

A	You have priority for *athlete development and growth*
B	You have priority for *having fun*
C	You have priority for *winning*

Coaching Styles

Coaches' behaviour and style of coaching can have a huge impact on the development of young athletes, including their self-confidence and motivation in the sport.

Coaching styles are generally grouped into three categories. They are not mutually exclusive, nor are they extremes. We prefer to see them as a continuum on a spectrum:

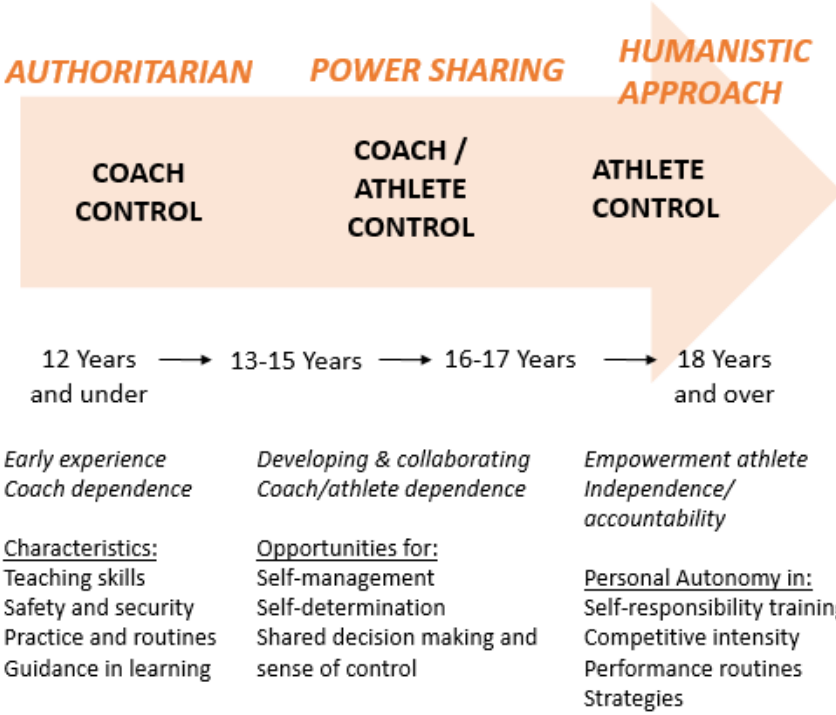


Figure 2. The Evolving Relationship of Coach and Athlete (adapted from Hogg, 1995).

Knowing Your Coaching Style

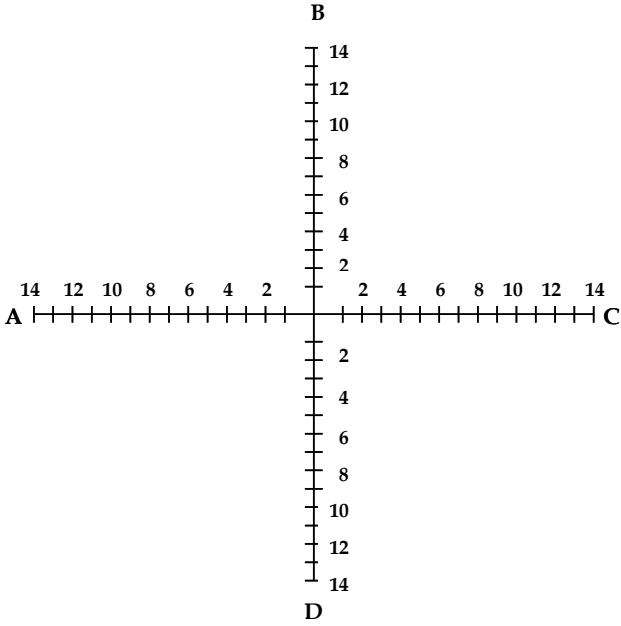
Now that you have answered some questions about your coaching objectives and motivations, here is another exercise to help you determine the attributes that you may want to enhance further.

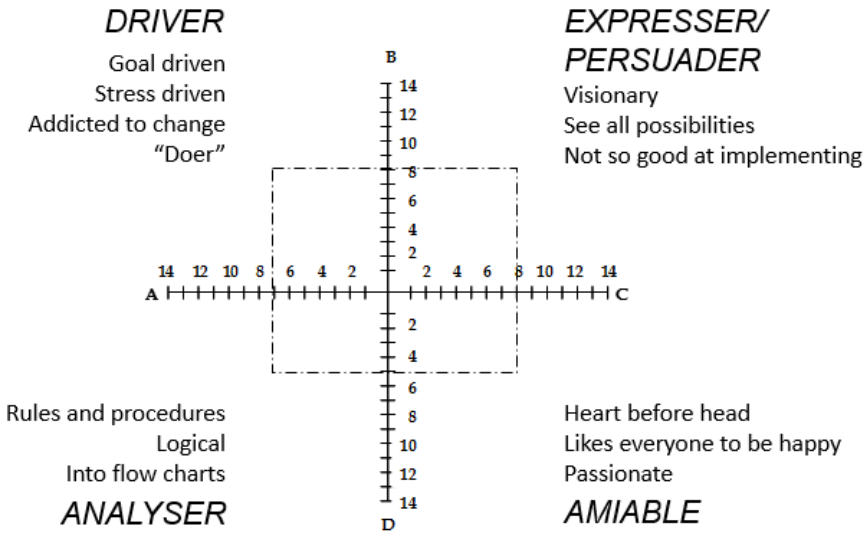
Below are 15 rows of four words (across). From each row (across), select two words out of the four that best describe the way you see yourself. If all four words sound like you, select the two that are most like you. If none of the four sounds like you, select the two that are closest to the way you are.

A	B	C	D
All Business	Bold	Personable	Deliberate
Organized listening	Telling	Courteous	Listening
Industrious	Independent	Companionable	Cooperative
No-nonsense	Decisive	Talkative	Reflective
Serious	Determined	Warm	Careful
To-the-point	Risk Taker	Amiable	Moderate
Practical	Aggressive	Empathetic	Non-assertive
Self-controlled	Authoritative	Show Emotions	Thorough
Goal Directed	Assertive	Friendly	Patient
Methodical	Unhesitating	Sincere	Prudent
Businesslike	Definite	Sociable	Precise
Diligent	Firm	Demonstrative	Particular
Systematic	Strong-minded	Sense of Humor	Thinking
Formal	Confident	Expressive	Hesitative
Persevering	Forceful	Trusting	Restrained

Total up the number of words circled under each column in the Table above. Plot those numbers on their respective axes using the grid below.

For example, if you circled six words in column A, mark the number 6 on the 'A' axis. Complete the same procedures for columns B, C and D. Then extend the marks into each respective quadrant to create a rectangle. The next page shows an example of a completed rectangle.





In your coaching career, there will be times when you face obstacles. Here are some common instances that may test your coaching philosophy:

- Parents
- Job security
- Personal competitiveness of the coach
- Sport traditions
- Team morale
- Problem athletes – player behavior
- Media
- Family problems

If you have a clear understanding of your coaching philosophy, they should be able to guide your actions, especially when making difficult decisions.

Areas of Development in a Youth Athlete

To understand the growth and development of a young athlete it is helpful to understand the four main areas of development:

Domain	Specifics
Physical	Height, strength and weight
Mental	Thinking and understanding
Social	Interacting with others
Emotional	Feelings and attitudes

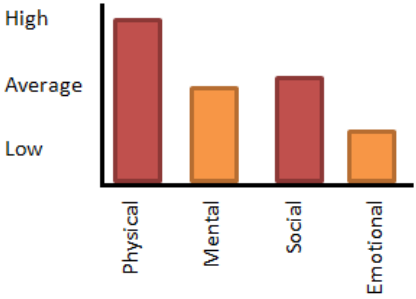
- ***Physical development*** refers to changes in the physiology of the young athlete, including weight, height, speed, coordination, strength, etc.
- ***Mental development*** refers to memory, language, information processing, decision-making, planning, perception, and other aspects that affect understanding the strategies and rules of play of the sport.
- ***Social development*** refers to the ability to interact and get along with teammates, coaches, parents, peers, officials etc. This includes showing basic respect and understanding of their roles and identity in different contexts.
- ***Emotional development*** refers to the ability to identify, express, and control one's feelings and emotions. For example, in a competition, it is important for athletes to remain in control of their emotions (anger at referee/teammate, fear of making mistakes).

Individual Differences in Youth Development

It is important to note that, between youth athletes, every individual is different. While some may exhibit maturity at a younger age, others take a longer time to fully develop their emotional and mental domains. Within the youth athlete, the four domains also

have different rates of growth, meaning, a physically mature athlete may not be fully emotionally mature.

As such, it may be useful for coaches to create different growth profiles for each athlete, in order to better understand their needs. Below are two examples of athlete developmental profiles, and the respective implications in behaviour and attitude.

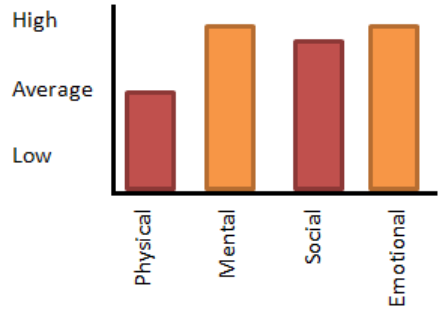


Athlete A

- Physically stronger, and may possess more power and speed
- However, with the slower mental development, may tend to play as an individual without regard for team strategy or game plan.
- May or may not have trouble getting along with teammates.
- Lack of emotional maturity may cause this player to become easily frustrated when things do not go well. Hence, player may have emotional outbursts, such as temper tantrums or arguments with teammates or coaches.

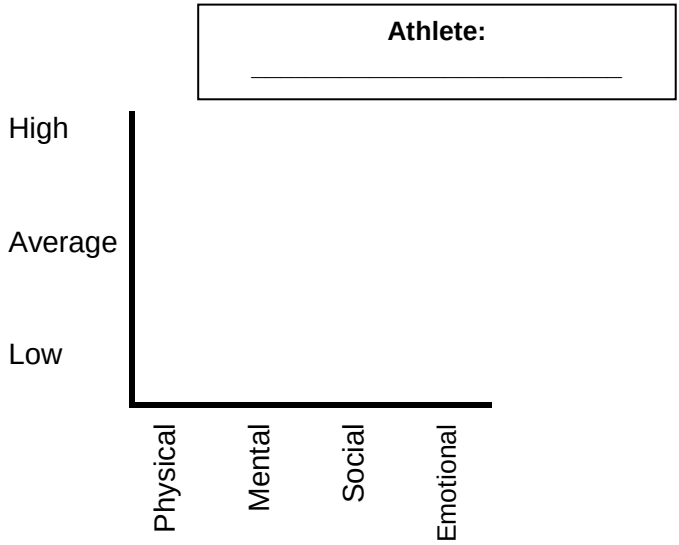
Athlete B

- Smaller physically, but may possess excellent timing and coordination.
- Level of mental or intellectual development will enable athlete to quickly grasp game plans and strategies
- High social skills allow player to be popular with teammates
- High emotional maturity will help player to control emotions when under stress



Now think of one of your athletes. What are the levels of development in his or her physical, mental, social and emotional domains? What are the behaviour and attitude implications that you have also observed?

Try to develop the profile of one of your athletes:



Domain	Behaviour Implications/Observed
Physical	
Mental	
Social	
Emotional	

For Coaches Facilitation of Students' Learning Using Athletes' Learning Journal

The content from this section onwards is found in the 10th ASG Athlete's Learning Journal. You may use the material to guide your student athletes in their understanding of sport nutrition, sport injury prevention and sport psychology, in tandem with the students' 10th ASG Athlete's Learning Journal.

SPORT NUTRITION

Introduction – Time Your Fuel

Optimal nutrition in sports incorporates concepts of periodisation according to training/competition demands, methodical planning, advanced preparation and eating of whole foods, fortified foods & supplements to:

1. Maximise training gains
2. Enhance muscle protein synthesis
3. Promote recovery & tissue repair
4. Improve mood states & immunity following high-volume/intense exercise.

It encompasses 3 key points: **T**ype, **A**mount, and **T**iming (**TAT**) and involves eating the **necessary type of nutrients** at an **ideal time** and in **adequate amounts,** in relation to training and/or competition. Collectively, these concepts are also popularly referred to in the concept of "**nutrient timing**".

In this chapter of sports nutrition, you will learn to plan the time of fuel for your athletes. You will also find answers to 3 key questions that should always be asked in sports nutrition as a coach:

1. **What** should my athletes be eating?
2. **How** much should my athletes be eating?
3. **When** should my athletes be eating?

Importance of a Stress-free Environment

While recommendations in this chapter are best followed for ideal results, a stress-free environment towards food and eating is important to cultivate healthy attitudes towards nutrition. Be **assertive**, not **restrictive.**

Background: An Athlete Is Like a Car.

Carbohydrates

An athlete's glycogen stores is similar to a car's petrol tank. Carbohydrates are the main building blocks of these glycogen stores. This makes adequate carbohydrates essential to ensure that an athlete has sufficient energy to maintain exercise intensity and workload imposed by the body to perform during training and competition. In addition to rice and alternatives, fruits and starchy vegetables can also be good sources of carbohydrates.

Proteins

Muscles are akin to the engine and wheels of the car, necessary to keep the body moving and working. Proteins are the key building blocks of muscles. Consuming sufficient amounts of protein at an ideal time helps to maximise muscle protein synthesis.

Vitamins & Minerals

Fruits and vegetables are rich in vitamins and minerals, which are often also antioxidants. Physical exertion during training and competition, especially when done at a moderate-high intensity, increases tissue breakdown in athletes. Antioxidants help to enhance the rate of tissue repair induced by training and promote adaptation. They also help to boost immunity and reduce muscle soreness.

Water & Fluids

The body produces heat in large amounts under intense physical exertion seen during training and competition. Adequate water and fluids are critical to ensure timely removal of excess heat from the athlete's body. This prevents symptoms associated with dehydration and heat exhaustion.

Key Nutrition Strategies #1: What to Eat?

BEFORE *FUEL UP & DRINK UP*

Like a car, an athlete should not train/compete empty.
Adequate carbohydrates are important to fill up the glycogen stores of an athlete.
Adequate fluids are important to ensure hydration.

TRAINING / COMPETITION

DURING *STAY FUELLED, STAY HYDRATED*

Glycogen stores are limited and they decline during exercise. If training/competition sessions are more than 60 minutes with moderate-high intensity workload, **additional carbohydrates** are needed.
Adequate fluids also essential for the body to buffer the workload.

AFTER *RECOVER & REPLENISH*

2 hours post training the most important time to maximise training adaptations and enhance muscle protein synthesis (MPS). **Adequate carbohydrates to** open the door to MPS and replenish glycogen stores.

Drive maximal MPS with high-quality protein (20-25g)

- As soon as possible (immediately to 2hr)
- Every 3-hourly thereafter

Fruits & Vegetables provide antioxidants to enhance tissue and muscle repair

Adequate fluids to replenish fluid losses

Key Nutrition Strategies #2: How Much to Eat?

Every sport and every athlete is different. Dietary strategies have to be individualised to the athlete's needs and training requirements.

Body Mass and Stage of Puberty

Youth athletes with a smaller physique and/or at the earlier stages of puberty may have different nutritional needs as compared to their peers who have a bigger physique and/or at the later stages of puberty. For example, 20g of protein portions, equivalent to 100g of meat, may be too much for a younger athlete. In this situation, the athlete would need to consume a minimum of 0.3g/kg body weight to trigger muscle protein synthesis.

Training Intensity/Load

The amount of carbohydrates and proteins needed for an athlete increases with training load & intensity (see Figure 3**, p. 30**). Proteins should always be high quality, with the total daily intake preferably evenly spaced out – every 3 hourly, approximately 20g in portions.

Duration of Training/Competition

Training/Competition sessions longer than an hour may require additional carbohydrates to fuel the athlete.

	Are Carbohydrates needed?
Brief (<45 min)	No
Extended and high intensity (45 – 75 min)	Yes (small amounts)
Endurance (1 – 2.5 hours)	Yes
Ultra-endurance (>2.5 – 3 hours)	Yes

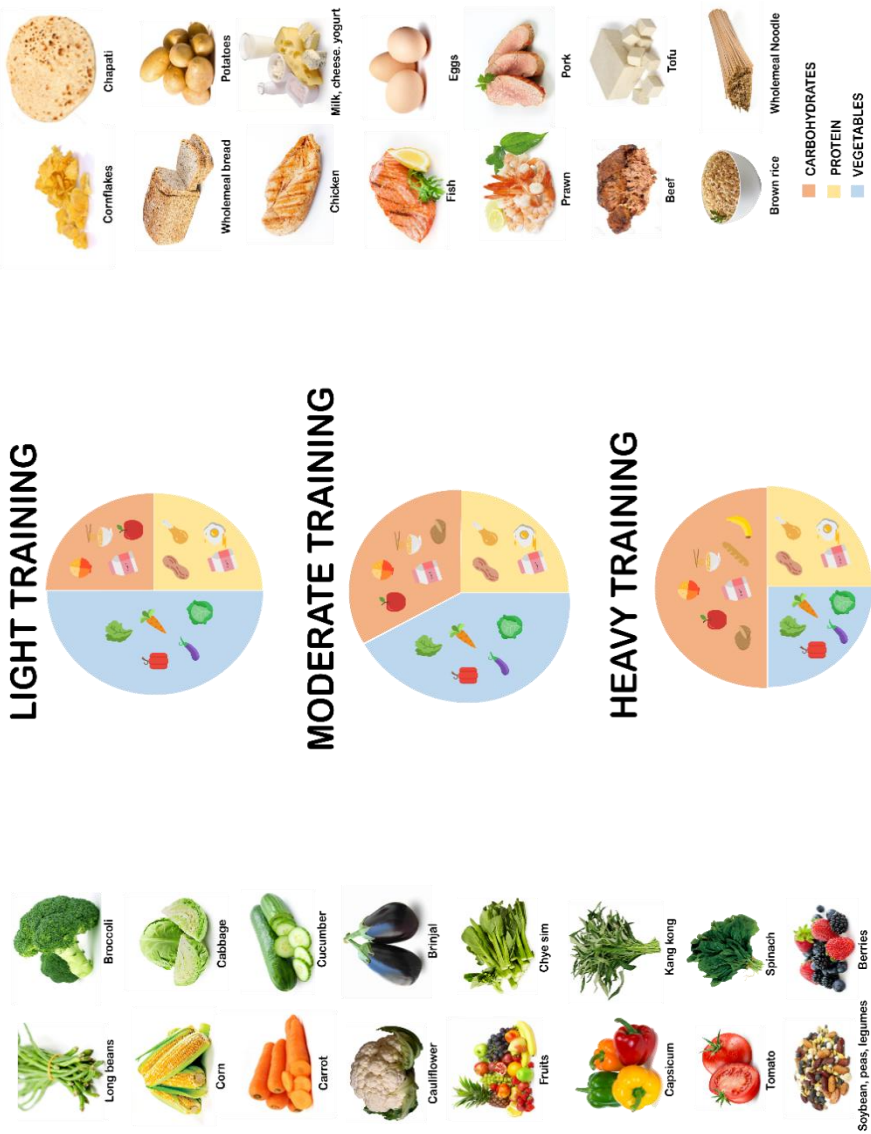
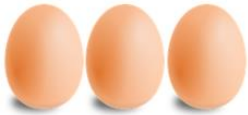


Figure 3. Build Your Plate According to Your Training

What Does 15-20g Protein Looks Like?

70-100g lean meat
(About 1 palm sized)

100-150g tuna
(1/2 –3/4 can)



3 large eggs

500ml milk/ soymilk

400g low fat
yoghurt
(2 small tubs)

90g mixed nuts
(~3 handfuls)

200g baked beans
(~1/2 large can)

4 slices low fat
cheese

150g tofu/ tempeh
(1 block)

Figure 4. Examples of 15-20g Protein Portions

Key Nutrition Strategies #3: When to Eat?

Figure 5. Important Nutrition Time-points

***Carbohydrates and fluid are important and depend on training/competition duration & intensity.**

Key Nutrition Strategies #4: Preventing Dehydration

Hydration status of athletes can be monitored via 2 methods – 1) Urine Colour Chart and 2) Body Weight.

Urine Colour Chart

The youth athletes can check their urine colour against the chart for an indication of hydration status However, the athlete should not aim to have their urine as pale as water as it is possible to overhydrate which can lead to hyponatremia. Hyponatremia can cause adverse athletic performance and potentially cause fatal health consequences.

Figure 6. Urine Colour Chart

Body Weight

Athletes should aim for <2% body weight change when comparing the body weight before and after training. It is calculated by:

$$\text{\% Body Weight Change} = \frac{\text{[Weight Before] – [Weight After]}}{\text{[Weight Before]}}$$

Download the **NYSI app** to learn more! This app allows a youth athlete or the coach to input the pre- and post-training weight. It can be downloaded from the App store or Play Store. Your athletes will also be given the **NYSI Recovery Bottles**. These bottles have been specially designed to allow your athletes to mark down their pre- and post-training weights.

Fluid Opportunities During Competitions

During training or competition, athletes can use the table below to ensure that enough fluids are consumed.

Sport	Opportunity for hydration
Badminton	Fluids to be consumed after each set
Basketball	Fluids to be consumed on court sidelines
Bowling	Fluids to be consumed during breaks
Gymnastics	Fluids to be consumed between events (if applicable)
Netball	Fluids to be consumed on court sidelines
Swimming	Fluids to be consumed between events
Sepkaw Takraw	Fluids to be consumed on court sidelines
Table tennis	Fluids to be consumed after rallies (if possible)
Track and Field	Fluids to be consumed during breaks
Volleyball	Players must drink at the bench

Are Sports Drinks Necessary?

Figure 7. Are Sports Drinks Necessary?

Practical Application #1: Planning Ahead as a Coach

In order to time the fuelling for your youth athletes, advance planning is required. The flowchart on the next page (Page 35) outlines the necessary decision-making processes in order to meet the Key Nutrition Strategies #1 to #3 (Pages 28-29). What do you foresee needs to be done/prepared in advance to help your youth athletes?

Complete the table on Page 38. You may use the ideas for snacks (Page 39) to help you.

Nutrient Timing Flowchart

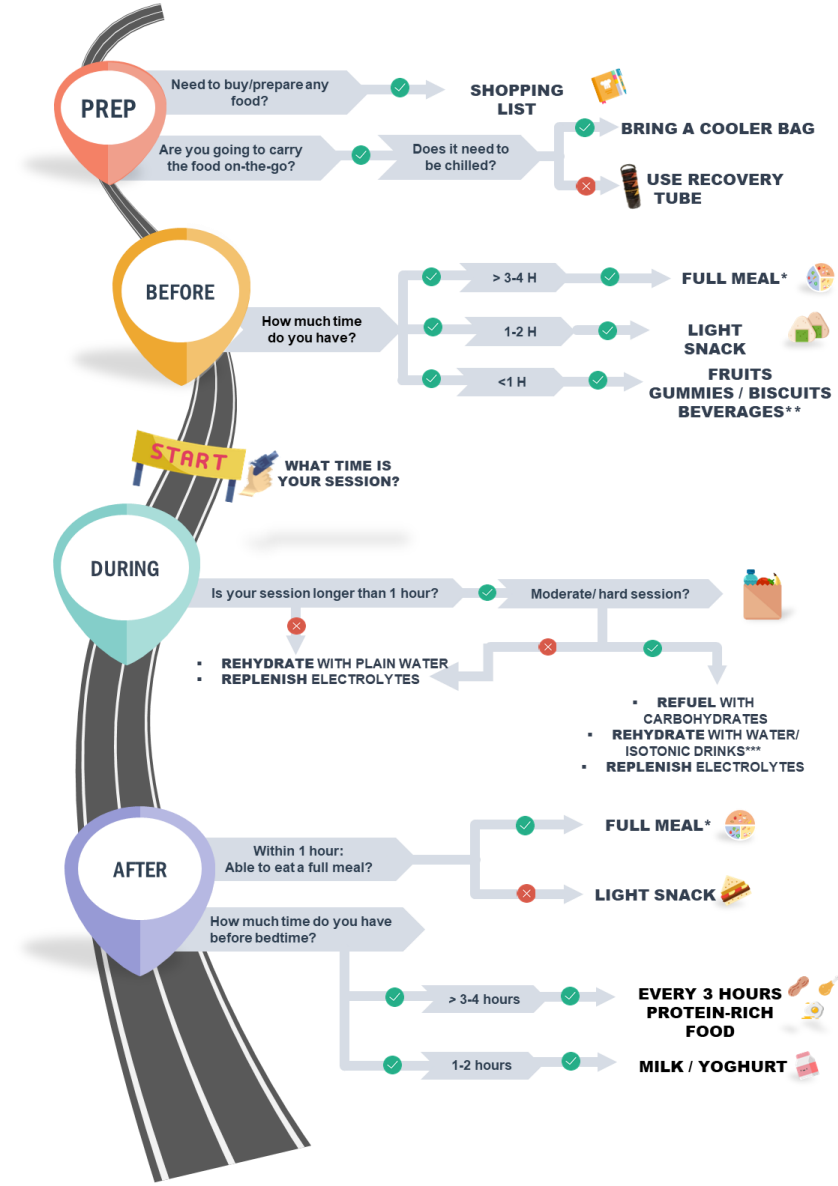


Figure 8. Nutrient Timing Flowchart

Notes (*//***)**

***FULL MEAL:** Depends on training intensity

****SWEETENED BEVERAGES** like soya bean drink and isotonic drinks are useful and quick sources of carbohydrates in these situations. However, excessive consumption of non-nutritive drinks with added sugar (soft drinks, sweetened bubble tea etc) should be avoided. The consumption of caffeinated drinks in youths is not encouraged.

*****WATER** should be enough in most situations and should be the first choice. Many isotonic drinks contain carbohydrates. If this is chosen:

- During session: additional refuelling with carbohydrates may not be necessary
- After session: carbohydrate intake may be decreased
- Excessive intake is not encouraged and may cause gastrointestinal distress due to fructose content

Planning Ahead as a Coach

Nutrition Strategy	Planning Needed
Before training/competition	
2-4 hours before: Proper meal	
30-60 minutes before: Light snack	
During training/competition	
Adequate hydration	
Additional carbohydrates if needed	
After training/competition	
Immediate – 2 hours: Consumption of proper meal with adequate carbohydrates and protein	
Every 3 hourly: Consumption of high-quality protein	
Before bed: Caesin-rich food item	

Ideas for Snacks – Before and after training/ competition (carbohydrates + protein)	
Before or after training/ competition	**Suggested snacks**
1 -2 hours before **OR** Immediately after training/ competition	• Flavoured low fat milk (e.g. chocolate milk) • Flavoured low fat milk (e.g. chocolate milk) + low fat cheese • Breakfast cereal + milk • Tuna + bread/crackers • Low fat yogurt • Low fat yogurt + Muesli bar • Sushi • Peanut/Red Bean Pancake • Red Bean Pau • Popiah • Fruits
3- 4 hours before **OR** Immediately after training/ competition	• Sandwiches with lean meat/chicken/fish filling + fruits • Sushi • Tuna + bread • Low fat yogurt + peanut butter sandwich • Flavoured low fat milk (e.g. chocolate milk) + 2 hard-boiled eggs • Calcium fortified soy milk + Sandwiches with lean meat/chicken/fish filling • Wrap with lean meat/chicken/fish filling + fruits (e.g. banana)

***Many milk options need to be chilled. Milk powder serves as a great substitute!**

Practical Application #2: Preparing Ahead as an Athlete

It is important to inculcate the habit of bringing their own snacks in your athletes. They may be placed in situations where food options may be limited (e.g. overseas competition venues). **Recovery food tubes** will be given to your athletes to plan and prepare food options ahead of time.

They are useful for your athletes to carry snacks to training/competition. Great for food items that do not need to be chilled!

Figure 9. Using the NYSI Recovery Tube

Practical Application #3: Hydration

***Objective*:**	To emphasize the importance of hydration and its effects on performance
Learning Objective	At the end of this session, your athletes should be able to **evaluate their hydration status**
Total Time	The whole duration of a training session
***Equipment*:**	Weighing scale **NYSI Recovery Bottle OR NYSI app** on Youth Athletes' mobile phones **(***Hydration Status* Tab)
***Area Needed*:**	On the training ground (only during training time)

Procedure

1. **Measuring body mass**
   - **a.** Wear minimal clothing and be barefeet before taking body mass measurements.
   - **b.** Prior to the start of and after training, measure athletes' body mass
2. **Recording body mass changes**
   - **a. NYSI RECOVERY BOTTLE OR**
     - **i.** Record the following weights on the NYSI Recovery Bottle
       - Pre-training weight
       - Post-training weight
     - **ii.** Calculate body weight % change according to equation on the bottle
   - **b. NYSI APP**
     - **i.** Download the NYSI app from the play store or app store
     - **ii.** Have athletes input measured values into the *Hydration Status* tab in the NYSI app.
3. **Read the following:**
   "What was your % loss? Generally, it should not exceed 1 – 2% of the body mass. If you lose more than this, you probably didn't drink enough. If you lost less, you might have drunk too much. "
4. **Discuss with athletes** what they learnt from this session.

Tracking Your Athletes' Hydration Status

Your athletes will be given either of the two NYSI bottles below. These bottles have sipping markers to help your athletes to monitor their fluid intake. It also allows them to record their weight before and after competition, allowing them to calculate their body weight change easily! Appendix B (p.108) shows the activity worksheets that will be given out to your athletes during their workshop.

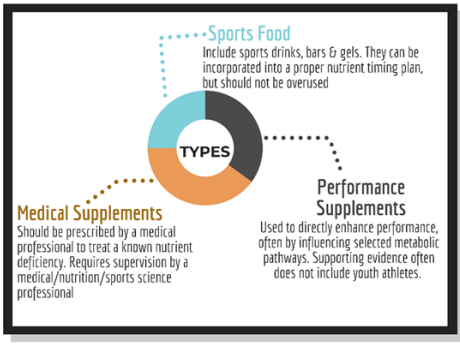
Design A

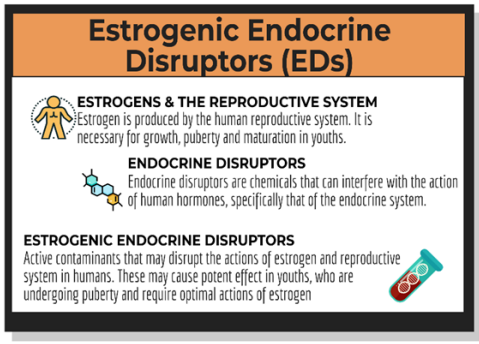
Design B

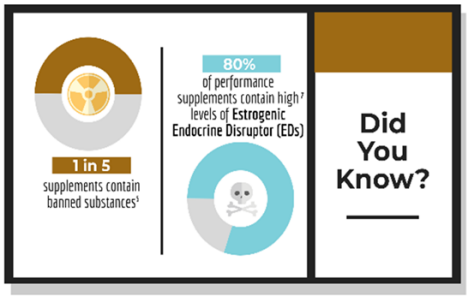
Figure 10. NYSI Bottles

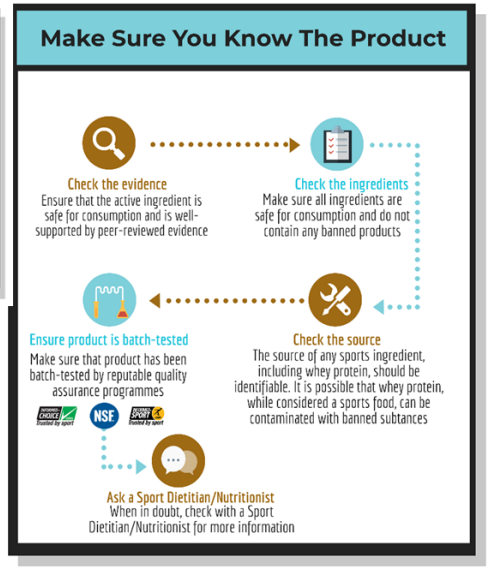
Consumption of Supplements

Supplements are **NOT** encouraged for youth athletes. They should not be consumed unless necessary. Know the different types of supplements available, and the risk involved from the infographic below!









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Traveling Nutrition – Do's and Don'ts

The following should be followed, especially when food safety and hygiene standards are questionable.

AVOID

- ❑ Ice in drinks
- ❑ Unfamiliar food
- ❑ Food sold at roadside stalls/carts
- ❑ Cold foods (e.g. salads, dessert)
- ❑ Raw foods (e.g. sushi)
- ❑ Cut fruits (or fruits not peeled in your presence)
- ❑ Store-bought fresh fruit juice
- ❑ Food left uncovered for extended duration, including cakes with cream
- ❑ Food not served steaming hot (including buffet) foods that is only partially cooked e.g. soft-boiled eggs
- ❑ Food that is infested with houseflies/ insects
- ❑ Drinking water from shower/pools
- ❑ Storing raw meats **<u>ABOVE</u>** raw foods like fruits, vegetables and cheese in the refrigerator

DO

- ❑ Wash hands frequently with soap and water, especially before and after eating. Ensure hands are washed for at least 30 secs
- ❑ Choose only fully-cooked food
- ❑ Drink only bottled water/fluids that has been opened in your presence
- ❑ Eat only whole fruits. Wash and peel all fruits
- ❑ Prepare a packing list of familiar, portable, non-perishable snacks*
- ❑ Prepare a shopping list to purchase familiar items from local supermarket
- ❑ When preparing food, keep raw foods like fruits and salads away from food that needs to be cooked.
- ❑ Use separate chopping boards and utensils for cooked and raw foods.
- ❑ Keep mouth close while showering
- ❑ In the refrigerator, store raw meats **<u>BELOW</u>** cooked food and raw foods like fruits, vegetables and cheese.

***ALWAYS CHECK AHEAD** and ensure that the food items are permitted in the country to avoid having your food items confiscated at the airport

Figure 12. Travelling Nutrition Checklist

Traveling Nutrition – What to Do When Your Athlete is Down with Gastroenteritis (Food Poisoning)

In the case of mass food poisoning (unusual number of ≥ 10), provide alternate sources of food and fluids for unaffected athletes. For the affected athletes, seek medical attention. The following dietary guidelines may be useful to manage their nutritional intake and related symptoms:

1) Stick to bland food during recovery
2) Include **ONE** carbohydrate **AND** **ONE** protein option (minimal)
3) Vegetables & fruits are ***optiona***l if appetite is poor (resume once appetite returns)
4) Small frequent meals as per tolerable throughout the day instead of large meals (especially during the first two days)

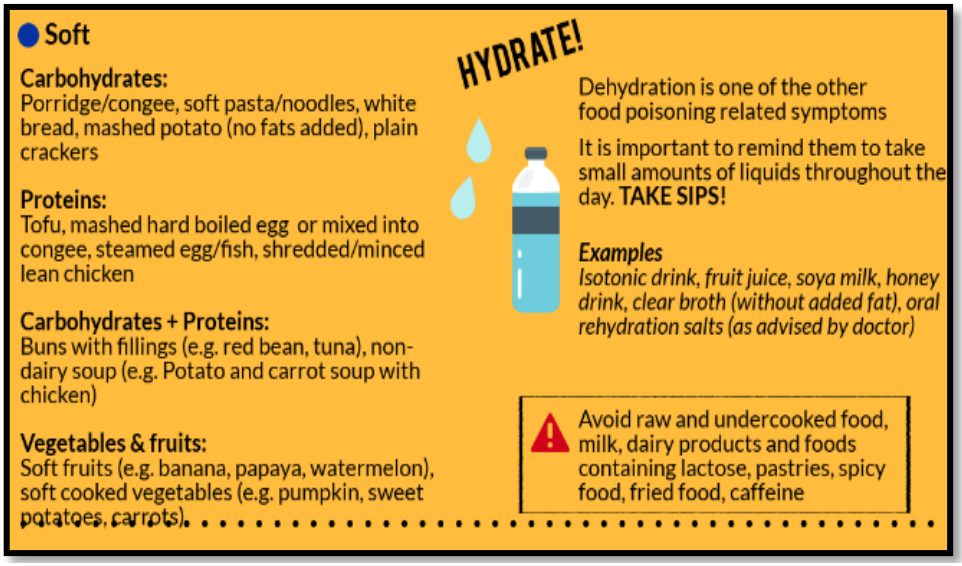


Figure 13. Examples of Food Options for Management of Gastroenteritis (Food Poisoning)

Traveling Nutrition – Useful Items to Pack

- Cereal bars
- Breakfast cereal
- Canned snack pack fruits
- Dried fruit
- Instant porridge/noodles
- Jam, honey, peanut butter
- Powdered milk
- Concentrated fruit juice
- Baked beans and spaghetti

Summary

A youth athlete is like a car. Optimal fuel makes the car run better. Likewise, eating **necessary types** of nutrients at an **ideal time** and in **adequate amounts** is important to help the athletes perform and recover better. In summary, the key goals for optimal nutrition in youth athletes are:

1. Before training: Fuel up, Drink up
2. During training: Stay fuelled, Stay hydrated
3. After training: Recover well, Replenish well

SPORT PHYSIOTHERAPY

What Is a Sports Injury?

A sports injury is any damage to the body that occurs in relation to a sporting activity. Injuries occur when stress (load) exceeds the capacity of the body (particular tissue/structure). Here are some common injuries:

SITE	ACUTE (SUDDEN, USUALLY DUE TO AN IMPACTFUL OR TRAUMATIC EVENT)	OVERUSE (CHRONIC)
Bone	Fracture Periosteal contusion	Stress Fracture "Bone strain", "stress reaction"
Articular Cartilage	Osteochondral/chondral fractures Minor osteochondral injury	Chondropathy
Joint	Dislocation Subluxation	Synovitis Osteoarthritis
Ligament	Sprain/tear (grades I-III)	Inflammation
Muscle	Strain/tear (grades I-III) Contusion Cramp Acute compartment syndrome	Chronic compartment syndrome Delayed onset muscle soreness Focal tissue thickening/fibrosis
Tendon	Tear (complete or partial)	Tendinopathy
Bursa	Traumatic bursitis	Bursitis
Nerve	Neuropraxia	Entrapment Minor nerve injury/irritation
Skin	Laceration Abrasion Puncture wound	Blister Callus

Adapted from *Clinical Sports Medicine, 4th Edition, 2009, Brukner and Kahn*

Common Injuries in Youth Athletes by Sport

SPORT	INJURY
Badminton	Thigh and back strains, ankle sprains, back strains/sprains, growth plate injuries, patella tendinopathy, stress fractures
Basketball	Ankle sprains, finger sprains, finger fractures, knee sprains, growth plate injuries, Osgood-Schlatter's disease
Bowling	Finger sprains, wrist and elbow related tendinopathies, ankle sprains, knee sprains, patella-femoral pain syndrome, shoulder strains, low back strains
Gymnastics	Back strain/sprain, wrist sprains, ankle sprains, medial tibial stress syndrome (shin splint)
Netball	Finger sprains, ankle sprains, shoulder strains, knee strains/sprains, Osgood-Schlatter's disease, Achilles tendon strain
Swimming	Shoulder strains, knee strains, neck and back strains
Sepak Takraw	Neck strains, thigh muscle strains, knee and ankle sprains
Table tennis	Elbow strains, thigh muscle strains, ankle sprains
Track and Field	Patella and Achilles tendinopathies, growth plate injuries, stress fractures, Osgood- Schlatter's disease, thigh and calf muscle strains
Volleyball	Finger sprains, finger fractures, knee sprains, growth plate injuries, Osgood-Schlatter's disease, ankle sprains, patella and Achilles tendinopathies

Sport Injuries in The Youth Athlete

The types of sports injuries sustained by youth athletes differ from that of adults. This is due to differences in physical and physiological aspects that allow for the growth occurring in varying measures throughout childhood. In general, children and adolescents are more vulnerable to injury of the bone tissue and muscle-tendon units.

During growth, muscles tend to elongate at a slower rate than the bone leading to increased tension in muscles. Hence, during a growth spurt, injury to muscles (especially the quadriceps and gastrocnemius) is commonplace.

The long bones of youth athletes are also generally more flexible than that of adults. However, certain areas of the bone are more susceptible to fractures if high impact forces are sustained. The first, is the area between the bone and the growth plate. The second is the area of the growing bone subjected to high pulling forces (e.g. the heel bone and the bony prominence at the front portion of the shin). An important period to take note of is during a youth's growth spurt, as studies have shown that it is during this time that fractures most commonly occur.

Compared to boys, girls are more flexible at their joints. In addition, their lower muscle strength and poorer balance and coordination render them more susceptible to injury.

A large proportion of injuries amongst youth in sport occur as a result of prolonged overload. The physiological and physical attributes of a youth athlete – discussed above – can't be changed. However, greater care and consideration can be put into the designing of a training program to cater to their needs. Having

good pre-training/competition warm up, monitoring training load, having a sound and tailored strength and conditioning program, and having in place good recovery strategies (including aspects such as proper cool down/stretching routine, sleep, nutrition, hydration, psychological well-being).

Consequences of Sports Injuries

An athlete will usually be out of sports practice or competition following an injury for a duration that could last from days to months depending on the severity of the injury.

This interruption in an athlete's training progression can have an impact on the athlete both physically and psychologically. Physically the consequence of an injury can be long term. Injuries that lead to longer term consequences are notably anterior cruciate ligament (ACL) tears, meniscus tears, ankle sprains and shoulder dislocations.

An injury alters the way an athlete moves, which can increase the risk of a re-injury of the same area or another part of the body. Hence a proper rehabilitation plan and ensuring that they meet certain criteria before allowing them back to training or competition is strongly recommended to reduce the risk of re-injury.

Guidelines on how to determine if an athlete is ready to return to play after an injury will be covered at the end of this chapter.

Sports Injury Prevention

Prevention of Injuries

Injuries will not be completely avoidable, but by first identifying risk factors of sports injuries and implementing strategies to mitigate these risks, we can lower the incidence of injuries.

Common Risk Factors for Sports Injuries

Risk factors in sport can be broadly classified into two categories:

Extrinsic (Environment)	Intrinsic (Athlete)
Training errors - Excessive volume - Excessive intensity - Rapid increase - Sudden change in type - Excessive fatigue - Inadequate recovery - Faulty technique **Surfaces** - Hard - Soft **Shoes** - Inappropriate - Worn out **Equipment** - Inappropriate **Environmental conditions** - Hot - Cold - Humid **Psychological factors** **Inadequate Nutrition**	**Malalignment** - Anatomical Variations **Leg length discrepancy** **Muscle imbalance** **Muscle weakness** **Lack of flexibility** - Generalized muscle tightness - Restricted joint range of motion **Sex, size, body composition** **Other** - Genetic factors - Endocrine factors - Metabolic conditions

Injury Prevention Strategies

After identifying the risk factors in the respective sports, strategies can be put in place to lower these risks and thus lower the occurrence of sport related injuries.

Risk Factor	Strategy
Training errors	- Periodised loading and training program - Not more than 10% increment of load per week - Sufficient recovery time - Proper recovery routine
Muscle Imbalance, muscle weakness, lack of flexibility, lack of required aerobic/anaerobic capacity	*Stretching and soft tissue release *Strength and conditioning
Lack of proper warm up	*Sports specific warm up
Equipment and shoes	Avoid using brand new equipment or shoes (preferably broken into)

*Due to the scope of this handbook, only three of the above strategies will be further elaborated on. They are 1) Sports specific warm up, 2) Stretching and soft tissue release and 3) Strength and conditioning.

#1 Sports Specific Warm Up Concepts

Benefits of a Specific Warm Up

- Prepares the athlete in a shorter time
- Incorporates elements of strength, balance and control into the athlete's routine
- Lowers the risk of injury

Figure 14. Make Your Warm Up Specific

#2 Relieve Tight Muscles

Stretching and soft tissue release are an important part of recovery. Hence, it is important to allocate time for it into the training session for your busy student athlete. To maximise effectiveness and time spent, you could incorporate active stretches. We discuss the basics and give some examples:

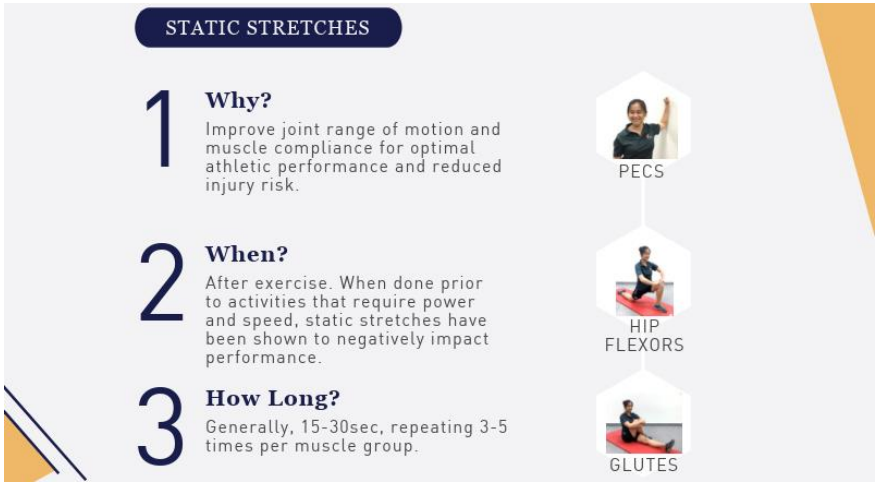


Figure 15. Static Stretches

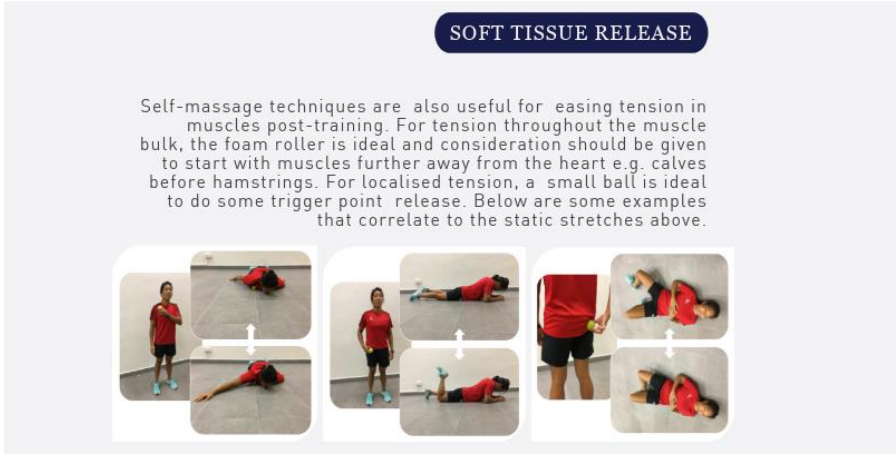


Figure 16. Soft Tissue Release

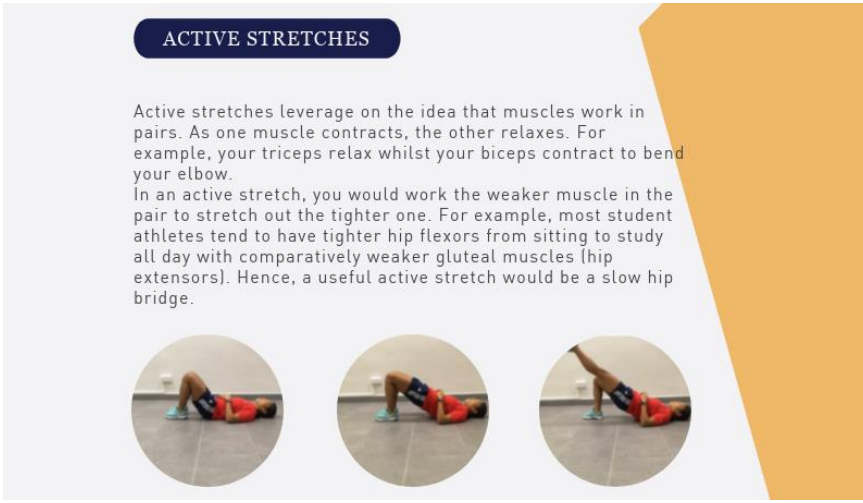


Figure 17. Active Stretches

Other Common Static Stretches:

Lower Body		Upper Body	
Quadriceps		**Triceps**	
Hamstrings		**Wrist Flexors**	
Adductors			

#3 Strength and Conditioning

Purposes of Strength and Conditioning

A well-structured strength and conditioning program will equip youth athletes with the required physical capability and capacity to train and compete, by enhancing their muscular strength and power, thereby reducing their likelihood of injury.

Discussion with a strength and conditioning coach to devise a program suited to the needs of your sport and the timeline of your competition schedule will help put in place a sound program for your athletes.

Components of a Good Strength and Conditioning Program

Figure 18 and Figure 19 show guidelines that are adapted from the International Youth Conditioning Association.

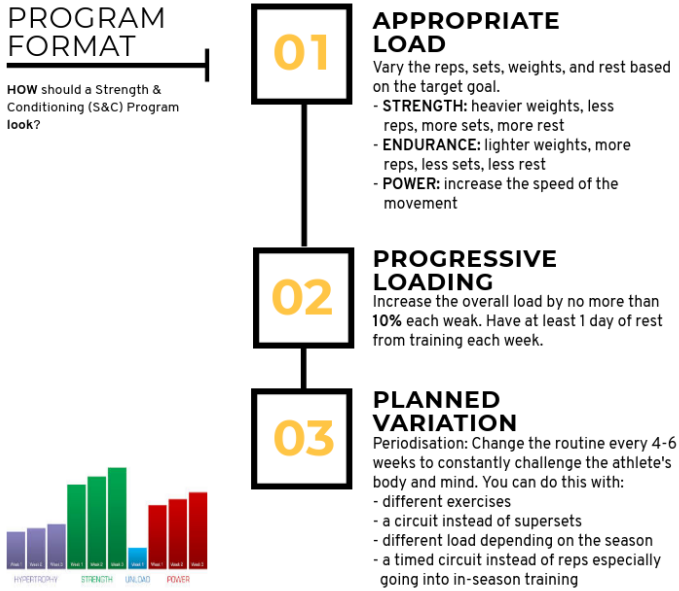
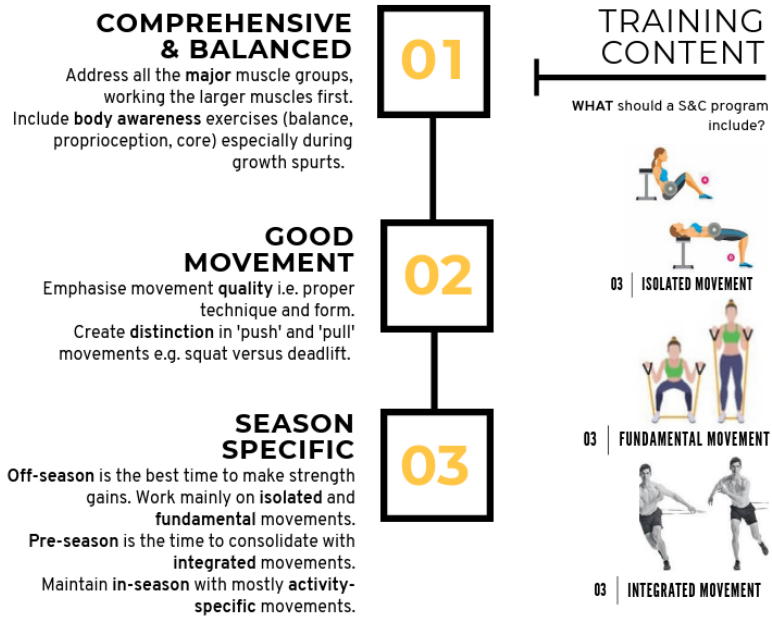


Figure 18. A Good Strength and Conditioning Program I



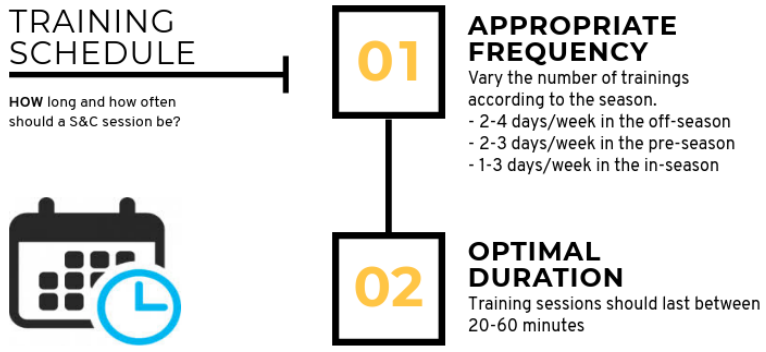


Figure 19. A Good Strength and Conditioning Program II

Practical Application #4: Identify Common Injuries

***Objective*:**	As a coach, be able to identify common injuries in your sport and devise preventative strategies
Total Time	30 to 45 minutes
***Equipment*:**	Writing materials

Procedure

1. List the common injuries in your sport as a coach.
2. Identify the risk factors that you believe contribute to the occurrence of these injuries.
   (You can use the table below to help with this task)

Sport you are coaching: _____

Common injuries in your sport	Common risk factors

3. After identifying the common risk factors, devise a rough program including the exercises you would do as warm up, the stretches to do post exercise and essential strength and conditioning exercises for your sport.
   (You can use the table below to help with your planning)

Warm up **(Include duration of each component)**
Stretches **(Include Reps and sets)**
Strength and conditioning **(Include purpose for the exercise, reps and sets, weightage and rest period if possible)**
Example:

Purpose	**Exercise**	**Reps x sets**	**Rest period**
Improve jumping power	Goblet squat	3-6 x 3 at 60% of 1RM	2-3 minutes between sets

Sports Injury Management

Although due care and effort is given to prevent injuries from happening, it is inevitable that injuries will occur in sports. Hence it is important to know how to recognise an injury and be able to manage them appropriately. As mentioned in the first part of this chapter, there is a difference between an acute injury and an overuse (chronic) injury. The management of each type will be different.

Acute Injuries

Acute injuries usually follow after a traumatic or impactful event (e.g. collision, awkward landing, fall etc.). When travelling overseas, important information one should find out first and foremost is:

1) Where and whom are the on-site first aid providers at the training/competition ground,
2) The number to call for an ambulance in the country you are in,
3) The nearest hospital to the training/competition venue.

Signs and Symptoms of an Acute injury:

If a serious injury (e.g. fracture, dislocation as usually indicated by joint deformity, severe pain and/or swelling) is suspected, emergency first aid should be called upon. The involved athlete should be kept calm and protected with basic on-site first aid until emergency services personnel arrives.

Management of Acute Injuries

Other less severe acute injuries can be safely managed using the P.OL.I.C.E principle. The acronym is described in Figure 20 below.

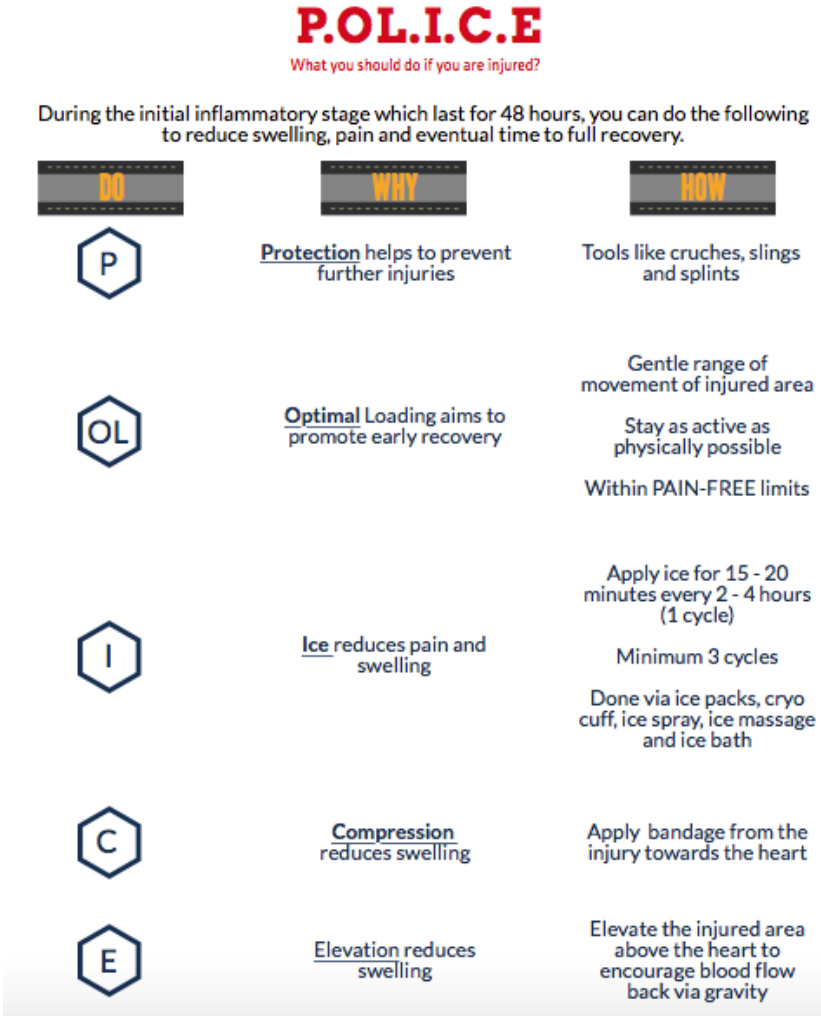


Figure 20. P.OL.I.C.E. Principle to Manage Acute Injuries

Referral to a physiotherapist following an acute injury is also preferred, as they will be able to advise on optimal loading for the injured site, alternative training strategies or modifications, and when it would be safe to return to play.

Things to Avoid Following an Injury

During the next 72 hours after an injury, **HARM**-ful factors should be avoided.

Figure 21. HARM-ful factors to avoid 72 hours post injury.

Heat: Avoid heat or heat rubs, as they increase bleeding at the injury site. Examples of these are hot baths, hot showers, saunas, heat packs and heat rubs.

Alternate Treatment: Some alternate treatment may involve vigorous massage and heat. These should be avoided.

Running/moderate activity: Any activity that can cause re-injury to the injury site should be avoided.

Massage/vigorous soft tissue therapy: These should be avoided for the first 24 to 48 hours as doing so may cause further swelling and bleeding to the injured area.

Practical Application #5: Muscle Soreness & Acute Injury

***Objectives*:**	1. To teach athletes how to identify the difference between muscle soreness and an acute injury 2. To ensure athletes know what should and should not be done in the event of an acute injury
Total Time	30 minutes
***Equipment*:**	Writing materials
***Area Needed*:**	Off-court

Procedure

1. Discuss with the athletes and list out the common injuries that occur with your sport.
2. Request for 1-2 athletes who have had an injury before to share how it felt at the time of injury and what was done to manage it.
3. Have athletes write out without referring to their booklet what are the 5 signs and symptoms of an acute injury.
4. Have 5 sheets of paper, each with one letter P. OL. I.C.E (O & L to be on the same sheet of paper). Break up the athletes into 5 groups, and have them write out what each letter stands for. Choose a representative from each group to explain to their peers what each component means.
5. Discuss with the athletes what are some examples of the components of H.A.R.M.

Concussion

What is a concussion?

A concussion is a type of traumatic brain injury caused by a bump, blow, or jolt to the head. It can also be caused by a hit to the body that causes the head and brain to move quickly back and forth. This fast movement can cause the brain to bounce or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging the brain cells.

What should be done if an athlete has a possible concussion?

1) Remove the athlete from play. If in doubt, sit them out
2) Keep an athlete with a possible concussion out of play on the same day of the injury and until cleared by a health care provider
3) Inform the athlete's parent(s) about the possible concussion
4) Ask for written instructions from the athlete's health care provider on return to play

Signs and Symptoms of a Concussion

Signs and symptoms often show up soon after injury, but on some occasions some symptoms may not be noticed or may not show up for hours or days.

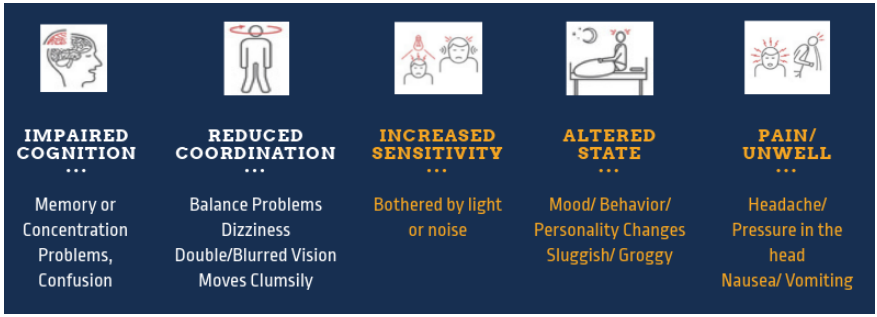


Figure 22. Signs And Symptoms Of A Concussion

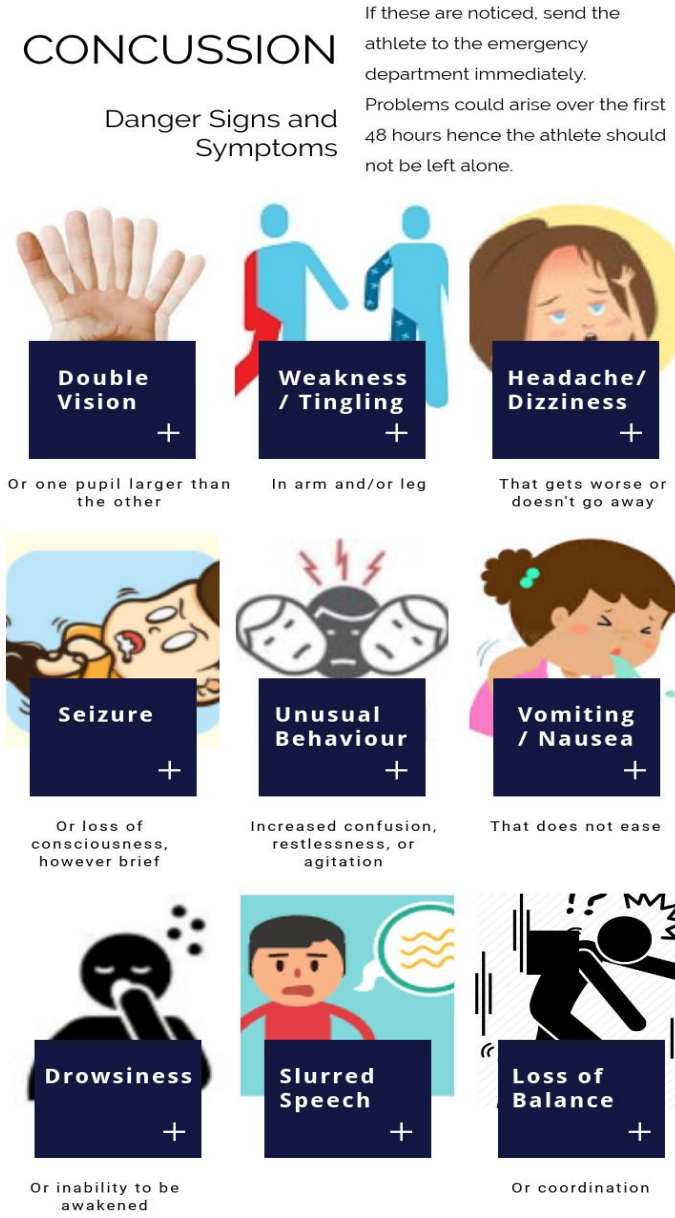


Figure 23. Danger Signs and Symptoms of a Concussion

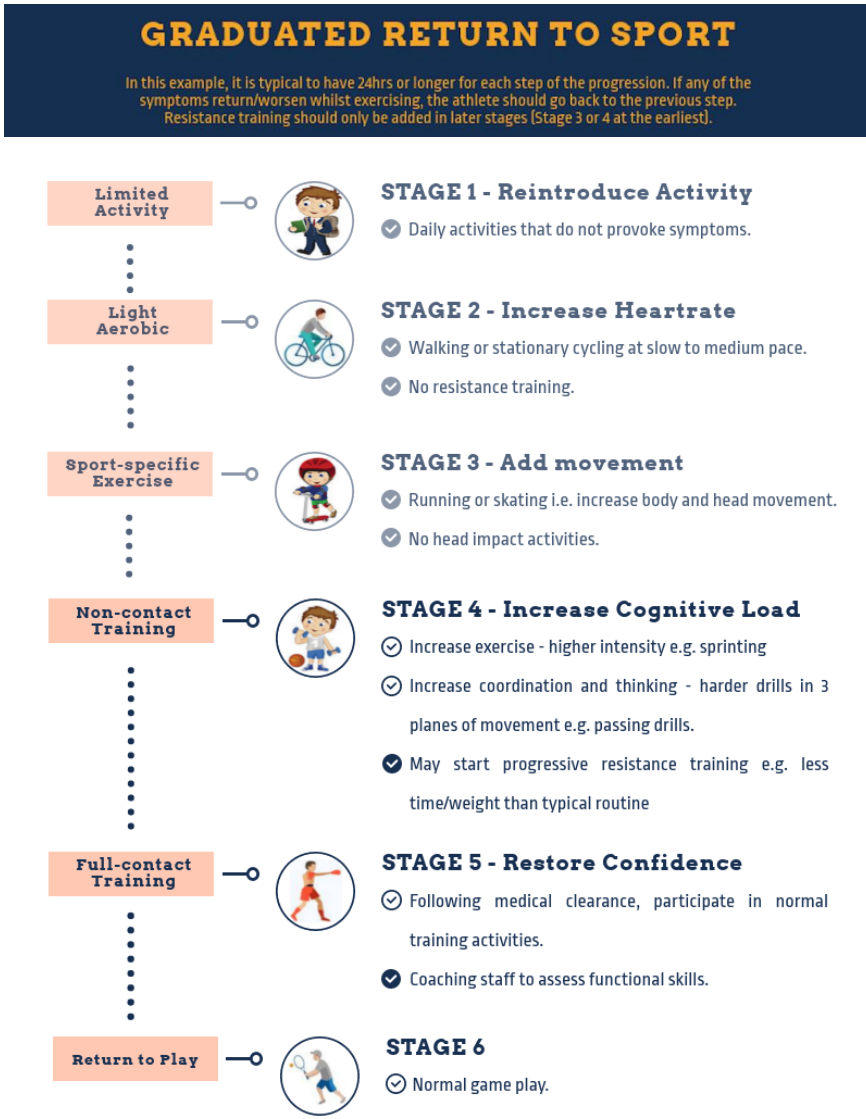


Figure 24. Graduated Return To Sport

Returning to Play After a Sports Injury

As mentioned earlier in this chapter, in order to minimise a risk of re-injury, the following are essential before an individual should be allowed to return to play or competition:

- A proper rehabilitation program
- Ensuring that athlete meets an appropriate criteria or assessment before

The following section will provide some general guidelines on how to ensure that an athlete has recovered fully from an injury and is fit to return to full participation in the individual's sport. This will include both physical and psychological aspects of recovery from an injury.

The following table outlines the phases of an injury and the proposed intervention for each phase:

Phase	Physiological presentations and aims	Psychological intervention
Initial Injury	• Swelling • Muscle tension • Pain • Limited mobility	Stage 1: Understanding Stage 2: Relaxation & Imagery
Strengthening	• Reduction of swelling and pain • Increase range of motion • Return of mobility • Strength training • Balance	Stage 3: Stress Management Stage 4: Social Support
Preparing to Return to Sport	• Functional training • Near normal functioning	Stage 5: Building Confidence

• Normal strength prior to injury	Stage 6: Preparing to Return to Play

Rehabilitating the Athlete to Return to Play Physically

Input from a team of sport science personnel such as sports doctors, physiotherapists, strength and conditioning coaches and psychologists liaising with the coach is ideal to facilitate the rehabilitation process for an injured athlete before returning to play. However, in the absence of such a team, the following shows the proposed sequence of rehabilitation process that a coach can follow for the injured athlete. The example of the progression of the rehabilitation of an ankle sprain is used.

1) *Restore simple functional control*
   Example: Single leg stand, heel raises and single leg squat

2) *Dynamic activity*
   Example: single leg hopping

3) *Position specific (in relation to the athlete's sport)*
   Example: Twisting and turning or jumping landing, depending on the athlete's position in his/her respective sport

4) *Sport Specific*
   Example: Repeated front and back lunges for a specified bout of time similar to game conditions.

The criteria for progressing from one stage to another is based on whether the individual athlete is able to perform the movement pain free at the particular stage. It should not be driven by a rigid timeline.

Modification of the individual's training can also be made based on the area of injury. For example, more focus can be given to upper body and/or core training in the instance of a lower body injury and vice versa.

Determining If an Athlete is Ready to Return to Play Physically

After a process of rehabilitation, the next step would be to determine if the athlete is ready to return to play and/or competition.

As different injuries take different time periods to heal, having a fixed timeline for an athlete to return to play is not ideal. Hence, a general list of expectations and performance measures are used to determine if the athlete is ready to return to play.

The list as follows is not exhaustive and is to be tailored to the individual's sport.

Expectations and performance measures:

1) Pain free and precise movement particular to the sport
2) Strength and power restored to pre-injury levels
3) Be able to complete all physical and technical skills required to perform
4) Be able to perform under fatigue without the fear of re-injury

The coach's expertise would come in handy in terms of identifying and choosing elements specific to the player's positional needs and/or the needs of the team to be tested prior to allowing the athlete to return to play.

Determining If an Athlete is Ready to Return to Play Psychologically

After sustaining an injury, an athlete's confidence to return to play may be affected as well and should not be overlooked.

Management of the athlete psychologically is as outlined by the table at the start of the chapter.

In the end phase of the intervention, a simple scale can be used to gauge if the athlete is ready to return to sport. This is known as the "**Psychological Readiness to Return to Sport Scale***".*

The scale is as follows:

Please rate your confidence to return to your sport on a scale from 0 - 100.

0 = no confidence at all
50 = moderate confidence
100 = complete confidence

1. *My overall confidence to play is* _____
2. *My confidence to play without pain is* _____
3. *My confidence to give 100% effort is* _____
4. *My confidence to not concentrate on the injury is* _____
5. *My confidence in the injured body part to handle to demands of the situation is* _____
6. *My confidence in my skill level/ability is* _____

Total score = _____
Divide the total score by 10 = _____

Scores between 50 and 60 suggest the athlete is psychologically ready to return to sports. Scores below 50 suggest that the athlete may not be ready psychologically to return to sports and needs more time to recover.

Return to Competition

It is suggested that the athlete should be allowed to return to competition only when they have completed a full week of training at pre-injury levels.

Summary

This booklet contains general guidelines and criteria that can be used by a coach to help an athlete rehabilitate an injury and to determine if the athlete is ready to return to play/competition. However, this should not take the place of seeking medical opinion/review if the athlete does not show signs of improvement and presents with persistent pain. If in doubt, it will always be in the best interest of the athlete to refer on to a relevant specialist.

SPORT PSYCHOLOGY

Introduction to Mental Skills

Mental skills training is not the exclusive domain of sport psychologists. At the youth level, mental skills training should be integrated and incorporated into daily training, ideally driven by coaches. The coach and the sport psychologist should ideally be working closely together to drive the mental skills development in athletes.

To integrate mental skills into training, it is important that you get familiar with the information and also practice it yourself. You can decide if you want to teach them all, or just one per month, and move on when everyone is ready.

To have buy-in from your athletes, you need to emphasise on the importance of these mental skills as well. Everyone will have a different rate of learning, but the key is to practise, practise, and practise.

The rest of this chapter will cover mental skills like goal setting as well as imagery. Some of the common questions that coaches may ask, will also be touched on during the chapter. These questions include:

1) How can athletes better deal with **anxiety**?
2) How can athletes better handle **pressure**?
3) What are some things my athletes can do **before** their competitions?
4) What are some things my athletes should be doing **after** their competitions?

Goal Setting

Credit: Dylanmah/Wikimedia Commons/CC-BY-SA

Calvin Kang, SEA Games Medallist

"Never stop dreaming. When I first began sprinting, I always wanted to represent Singapore. I have achieved that and I am still pushing greater boundaries to run even faster."

Why set goals?

1. Know Where You Want the Athletes to Go

As coaches, you already know your athletes' final goal. Sharing this vision with your athletes will give them direction and purpose for trainings and competition preparations. There are three types of goals:

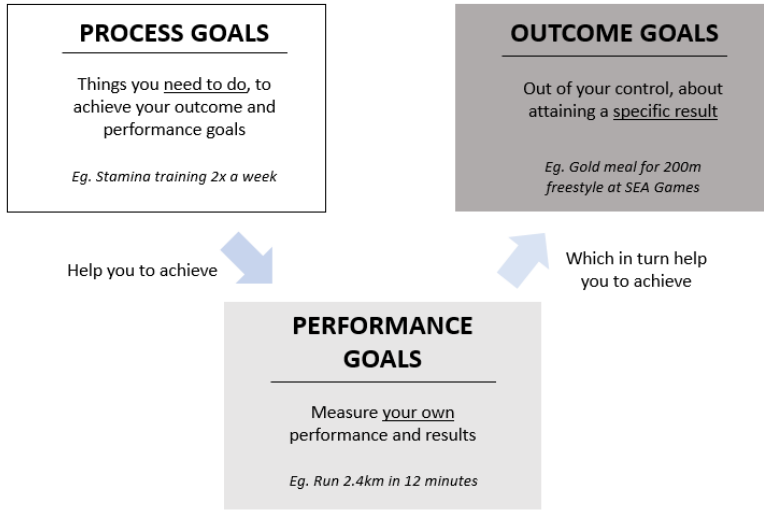


Figure 25. Type of Goals

2. Plan How to Get There

On top of sharing the final goal with your athletes, it is also important to talk about the smaller every day goals that lead towards it. **Individually,** help athletes to identify personal goals, and break them down into smaller goals. As a **team**, discuss team goals they would like to achieve together.

Remember to set both performance and non-performance goals! You can get athletes to write down their goals and display them somewhere easily noticeable. This helps to build accountability.

This is an example of the goals of a junior elite athlete.

Name of Competition	Asian Youth Games
Date of Competition	Nov 2018
GOALS for the Competition	1. Qualify for finals 2. Hit personal best for pet event
ACTION: What am I going to work on in trainings to help me achieve this goal	Physical – increase strength and stamina (gym training) Technical – work on strokes/turns Tactical – work with coach on swimming tactics Mental – learn to control emotions

Practical Application #6: Goal Setting

***Objective*:**	Setting goals for a specific competition
Total Time	30 to 45 minutes
***Equipment*:**	• Goal-setting template • Writing materials
***Area Needed*:**	Off-court

Procedure

1. Discuss with athletes the importance of having goals and breaking them down into smaller goals
2. Identify an upcoming competition
3. List down goals for the competition
4. Help the athletes to identify their personal goals to work towards
5. Discuss how they can break down the goals into smaller goals.
6. As a team, also discuss the goals that they would collectively like to achieve.

As a team, discuss what your goals are for the upcoming competition. Team goals can pertain to **performance goals** (e.g., top 3 placing), or **non-performance goals** (e.g., encouraging and cheering for each other during the competition).

TEAM GOALS:

Imagery

Shanti Pereira,
200m SEA Games Gold Medallist

"I have had dreams of winning this event so many times and it would replay in my head from time to time."

Why mental imagery?

As you can see from the quotes, athletes both past and present have revealed their secret to success is being able to **SEE** success. Mental imagery not only builds confidence, it also helps you to prepare mentally for competitions.

Mental imagery aims to:

1. Recreate – successful competitions (try to recall your best race ever in your life, where was it, who were there, what did you do before the competition, how did you do, how did you feel afterwards)
2. Create – mental imagery of bouncing back from mistakes, achieving goals, overcoming stressful environments (rowdy crowd, trailing behind, catching up)

Credit: Raj Kiran Chobey/Flickr/CC-BY-NC 2.0

Joseph Schooling, Olympian and SEA Games Medallist

On the pool deck, you can't see the athletes' lips move, but some are in animated conversation with themselves. "I take my clothes off, look down, breathe in, **visualise**." Then Joseph tells himself: "You put so much effort (in training), don't chicken out."

The Straits Times (2013, September 3)

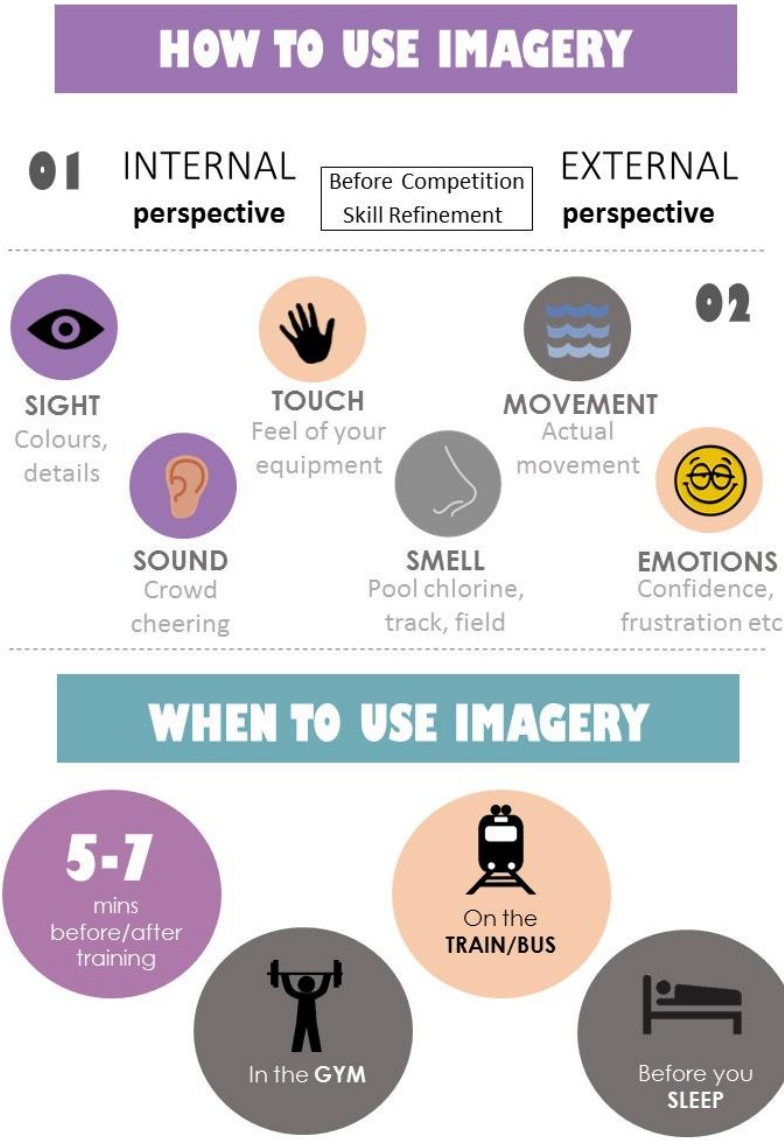


Figure 26. Imagery - How and When to Use

Practical Application #7: Imagery

***Objective*:**	Imagery
Total Time	15 minutes
***Equipment*:**	Writing materials
***Area Needed*:**	Off-court or on-court

Procedure

1. Discuss the importance of making imagery as real as possible, by including the different senses
2. Then, have athletes identify and recall their best ever performance in a competition.
3. Once everybody has identified one, have the athletes close their eyes, and read the following script to them. Athletes should try to imagine the entire scenario, as clearly as

For a pre-competition imagery session, you can read the following script to your athletes:

Sample Script for All Sports

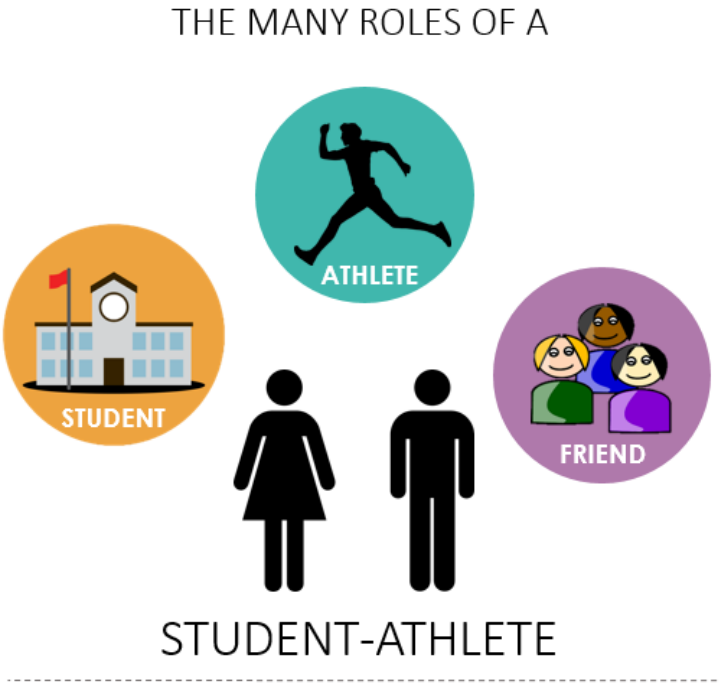
Think back about a time when you performed really well in a competition. Which competition was it? Try to remember where it was held, the location of the competition. How was the set up? Try to put in as many details as possible. For example, what sounds did you hear? Can you hear the crowd cheering, talking? Who were there, can you see your coach? Or your parents, or teammates? Picture yourself in your competition gear… what was the colour of your jersey? Try to put in as many details as possible, try to imagine the environment, and if you can hear any sounds, or see anything in particular that you remember.

Now try to think about what went on during the competition. What happened during the competition? How did you perform? See yourself executing the moves… try to feel it in your body as you are bringing yourself back to that moment in time. Bring yourself back to the competition, and try to recall what feelings you had…

Try to remember how well you performed during the competition… You are performing as well as you possibly can and you are feeling very confident. You are a tough opponent for anybody when you feel like this. You are unstoppable. Notice how intensely focused you are and how relaxed your body feels. Imagine yourself performing like this for a few more moments. Everything is easy, and you are celebrating every point.

Notice you are strong, reactive and relaxed, but at the same time alert, and confident… you know that nothing can get in your way, and you can handle anything. Try to recapture what you were feeling and thinking, and see yourself performing well. Remember this feeling. See yourself standing tall, and looking confident. Remember this feeling, this entire imagery.

Focus



TIPS TO FOCUS

TIP 1: Line athletes up along the court. As they cross the line, tell them that they are moving from a "student" identity to an "athlete" identity. As such, they should leave behind worries or thoughts about homework, tests or exams.

TIP 2: Help athletes be ready for training by having a team cheer/song, or even a team arm band.

Figure 27. Tips to Focus

The Power of Self-Talk

Negative self-talk is probably the most destructive of sport performance. So it is important for young athletes to be aware of their internal dialogue, because it can greatly affect their actions and behaviour, especially their confidence.

There are 3 simple steps to promote helpful self-talk.

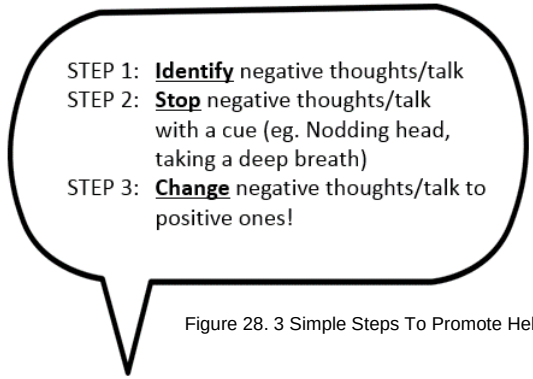


Figure 28. 3 Simple Steps To Promote Helpful Self-Talk

You can do the following activity with your athletes to help them identify the types of self-talk they usually engage with in different situations.

Type of self-talk	Examples
Calming/Relaxing	"Take a deep breath." "Don't worry, take your time and slow down."
Performance Worry	"I hope I don't do too badly." "This is too hard."
Instructional	"Bend your knees." "Stop, stop! Balance."
Self Doubts in Ability	"I can't do this." "I'm no good at balancing."
Motivational	"Yes! Come on, let's go!" "I know I can do it."
Frustration	"This makes me mad." "Why do I bother?"
Focus	"Don't think about anything, just concentrate." "Focus on your feet and find the best position."

Figure 29. Types of Self-Talk. Adapted from Kaori et al. (2006)

Practical Application #8: Negative Self-Talk

***Objective*:**	Identifying and changing negative self-talk
Total Time	45 minutes
***Equipment*:**	Writing materials
***Area Needed*:**	Off-court or on-court

Procedure

1. Coach sets up a challenging drill where it is likely to frequent errors from athletes.
2. After each mistake, athlete should do the following:
    a. Imagine correction (correct technique)
    b. Positive self-talk example: "Relax, hit it earlier next time" (or other relevant self-talk)

The purpose of this exercise is to help athletes get into the habit of self-correction using imagery and self-talk after making mistakes, so that they can move on from them, instead of dwelling on it with negative thoughts.

Dealing with Anxiety

Rachel Yang
SEA Games Medallist (Pole Vault)

"I came in very nervous and was quite scared... but I told myself I need to build on the confidence of the last few months, so I had to throw away all the negative thoughts and just focus on the jump."

The Straits Times (2015, June 12)

Everyone gets nervous before competition, including coaches! Anxiety can be in two forms:

Figure 30. Forms of Anxiety

Anxiety is caused by high expectations of success, thoughts of self-doubt, lack of confidence, and knowing that there will be an audience. Figure 31 (p.90) shows some ways that you can handle anxiety with your team.

Practical Application #9: Dealing with Anxiety

***Objective*:**	Dealing with anxiety
Total Time	45 minutes
***Equipment*:**	None
***Area Needed*:**	Off-court or on-court

Procedure

1. Together with your team, identify what are some of the anxiety symptoms they experience before competitions
2. Explain the link between thoughts, behaviour, and action. (Negative thoughts → anxiety → muscle tension → subpar performance)
3. Discuss some ways to deal with anxiety. Sometimes the athletes can come up with creative solutions!

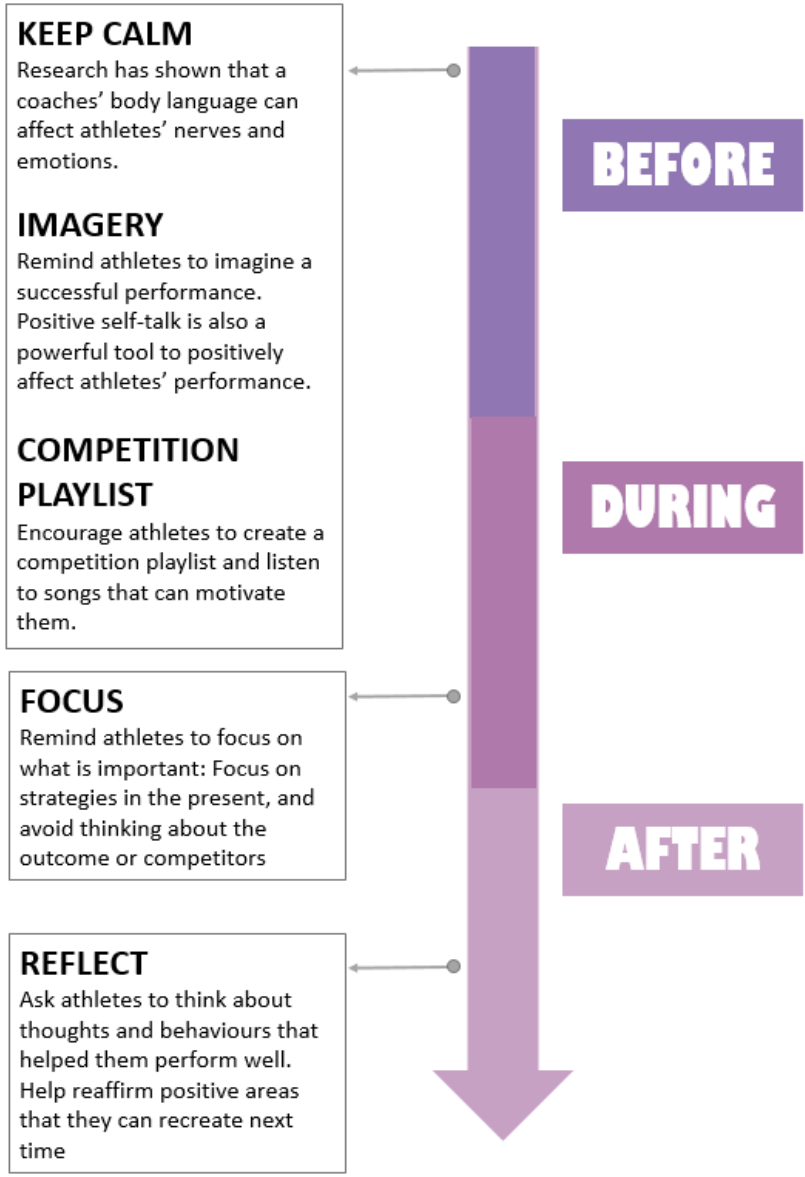


Figure 31. Dealing with Anxiety

Handling Pressure

Credit: Singapore Sports Council/Flickr/CC-BY-NC-ND 2.0

Quah Zheng Wen,
SEA Games Gold Medallist

"As long as I can come out (of the Olympics) with no regrets, and knowing that I did my utmost best, I think that's good enough, because my expectations (of myself) are most important. **For the pressure, it is always good to have a certain amount of it, and I can deal with this added pressure."**

TODAY (2015, July 7)

So what is pressure?

Pressure usually refers to the feelings an athlete has about performing in a sporting situation. Actually, pressure is a feeling that is created by ourselves, when we react to particular events or situations.

Some athletes thrive on the feeling of pressure, whereas others break down and fall apart. But you have to understand that pressure is not all bad – in the right amount, it can actually enhance motivation, concentration and enjoyment. Feeling pressure can also keep athletes on their toes, and help them get ready for the competition.

So, where does pressure come from?

Pressure can come from a variety of internal and external sources. Including:

- ☐ parental expectations to perform
- ☐ expectations about the competition (desired result, anticipated reward, selection opportunities)
- ☐ other people's expectations (especially team mates and coaches, but also from other people such as friends, relatives)
- ☐ press and media expectations (newspaper, etc.)
- ☐ preparation for competition (how well prepared you feel, and how ready you feel on the day)
- ☐ crowd or audience effects (their reactions to performance, either supportive or derisive)
- ☐ importance of this competition (selection, one last medal and then retirement)
- ☐ lack of self-confidence (doubting your ability to perform)
- ☐ Others:_____

PRESSURE IS AN ILLUSION!

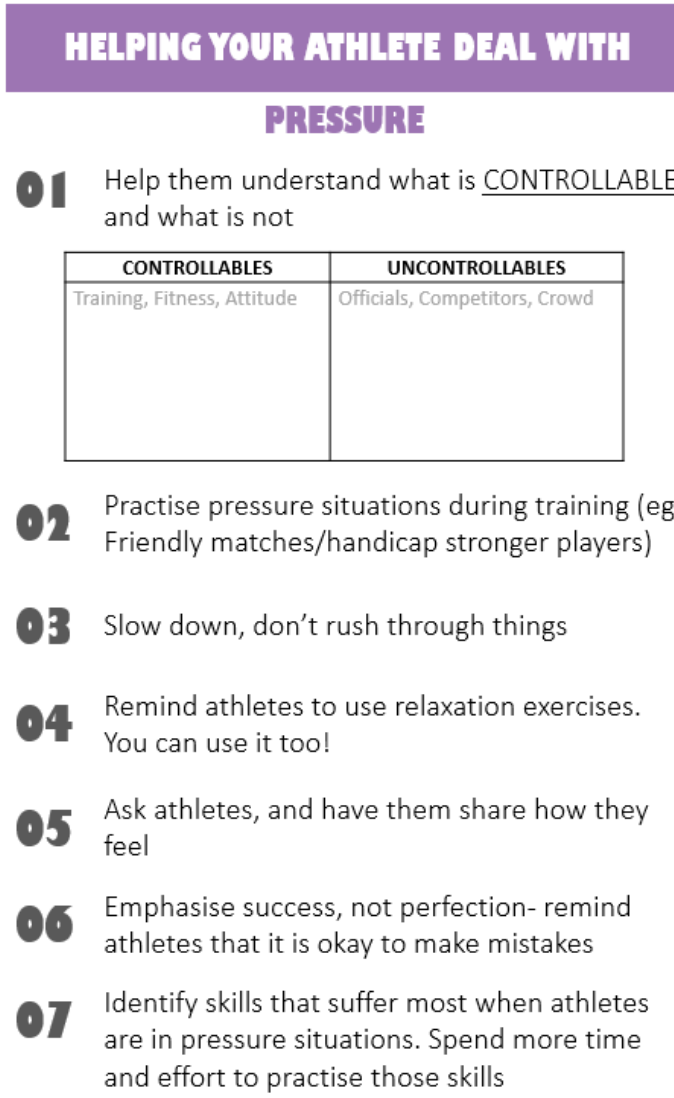


Figure 32. Helping Your Athlete Deal with Pressure

Practical Application #10: Controllables & Uncontrollables

***Objective*:**	To be able to identify controllables and uncontrollables
Total Time	45 minutes
***Equipment*:**	Writing materials
***Area Needed*:**	Off-court or on-court

Procedure

1. Provide a piece of paper to athletes, have them fold it in half. One half is titled " Uncontrollables", and the other half is titled "Controllables"
2. Discuss with the team what are some of the factors that are beyond our control, and what are some factors that we can control.
3. The key takeaway is to let go of the uncontrollables, and focus on the things that you can control.

Pre-Game Mental Preparations

Credit: Whyohgee Singapore 2010/Wikimedia Commons/CC-BY-2.0 4.0

C Kunalan, Olympian,
Singapore Sprinting Legend

"You need to have a winner's mentality… And if others beat you, it just means they have done better training, so you need to evaluate your performance, then work harder."

TODAY (2015, April 18)

In 1998, ten athletes from the US World Championships Swim Team were interviewed to uncover how they approach and deal with the mental aspect of swimming. Interestingly, even though the athletes prepared for their races differently, ***all of the athletes had a routine or plan to get mentally ready to race.*** Figure 33 Figure 33on the next page shows 3 things that you can remind your athletes to do before competitions:

GOALS

Ask athletes: What are the things you have to do to achieve the best possible result in this competition?

Review goals with athletes to see which ones they have achieved, which ones they need to work on

Examples:
- Have breakfast/hydrate
- Use imagery
- Focus on self, not others
- Focus on specific techniques/tactics

IMAGERY

Tell athletes: See and feel yourself performing optimally

! Remind athletes to practise the night before and right before competitions

Tips:
- Find a quiet place
- Close your eyes
- Take 3 deep breaths and exhale slowly
- Count to 4 as you inhale, hold for 7 counts, and count to 8 as your exhale
- Imagine how you want your performance to go
- Feel the sensations, hear the sounds
- Slowly open your eyes after imagery

RELAXATION & ACTIVATION

Everyone has a different Individual Zone of Optimal Functioning (IZOF)

	Anxiety Level		
Low IZOF	**Optimal performance**	Poor performance due to high anxiety	
Moderate IZOF	Poor performance due to low anxiety	**Optimal performance**	Poor performance due to high anxiety
High IZOF	Poor performance due to low anxiety		**Optimal performance**

Tips on reaching your IZOF

	To relax	To activate
Breathing	Slow, deep rhythm. Inhale to 4 counts, hold your breath for 7 seconds and exhale slowly to 8 counts.	Faster breathing
Relaxed muscular state	Tense specific muscle groups for 10 seconds, then relax	Dynamic warm ups, to activate muscles
Imagery	Calm pictures, imagining being in control, with confidence	Energizing images of perfect performances
Self-Talk	Relaxing cue words (calm, relax, smooth)	Powerful, confident talk (get tough, go for it)

Competition Ready

Figure 33. Pre-Game Mental Preparations

Practical Application #11: Pre-Game Routine

***Objective*:**	Creating a pre-game routine
Total Time	45 minutes
***Equipment*:**	• Writing materials • Pre-game routine template
***Area Needed*:**	Off-court or on-court

Procedure

1. Share your own experiences as a coach/athlete and your pre-game routines when you were competing
2. Pre-game routines can help athletes get into the correct frame of mind for competing, no matter the location/competition
3. Using the template, identify what is required in the various time frames before competition
4. Have athletes write it down, and practice in the next mock-competition or friendly game, or even before trainings

Create a Pre-Race Routine

	What do you need MENTALLY	What do you need PHYSICALLY
On the way to the competition		
Before the competition		
During the competition		

Mental Skills Toolkit

Figure 34. Mental Toolkit

The Mental Toolkit is a portable, lightweight box comprising various items that help provide national youth athletes with the resources to better prepare psychologically for training and/or competition. You can encourage your athletes to bring along their tool kits for trainings and competitions, to aid them whenever necessary. Encourage your athletes to use the items in the toolkit before or after their training sessions as well as during their competitions!

The following items may be found in the toolkit:

Figure 35. Items in The Mental Toolkit

Recovery

It is important for your athletes to know how to recover after their competitions. Here are some ways that you can instruct them to recover after their performance:

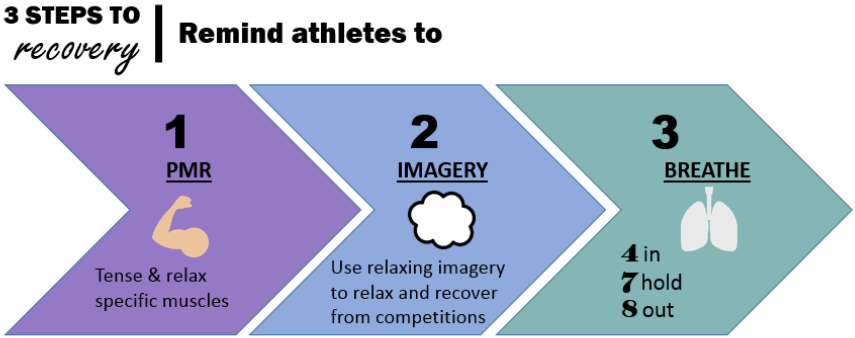


Figure 36. 3 Steps to Recovery (Psychology)

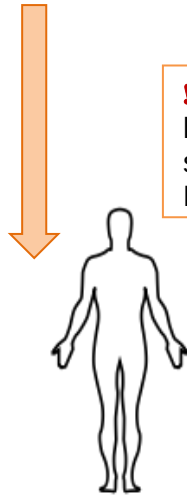
As their coach, you could also be holding your breath at crucial moments during the competition. Don't forget to keep breathing as well!

Here is a sample PMR script that you can use on your athletes when required.

Sample Script for All Sports

"Sit down in a comfortable position, and try to put yourself in a relaxed state. Close your eyes and take a long, slow deep breath through your nose, inhaling as much as you can. Then exhale slowly and fully. Feel the tension leave your body as you exhale. Take another deep breath and let all the tension and problems you feel leave your body as you exhale. Do not strain to relax, just let it happen naturally. During this period, try not to move unnecessarily. We will progress through a few muscle groups and for each muscle group, tense it for approximately 5 to 7 seconds, and relax it for 20-30 seconds.

Tense the muscles in the forehead and face by scrunching up your face. Feel the tension in your head and face. Okay, relax and let go of the tension. Notice the difference between tension and relaxation. Scrunch up your face one more time. <After 5 to 7 seconds> Now, relax and focus the release of tension in your lower arm." **<Continue for rest of body>**



❗ Tip: Start tensing from the head to the feet in a systematic manner if using PMR for recovery

Summary

The performance of athletes are affected when they are unable to: 1) cope effectively with anxiety or 2) handle pressure, on top of other reasons. Having a pre-competition plan can help better prepare athletes to cope effectively in these situations. Mental skills that can be incorporated into the pre-race plan include: 1) Imagery, 2) Relaxation (breathing), and 3) Distraction Control (through music). After competitions, reflecting and relaxing can help athletes improve their future performances.

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Selected icons used in infographics were made by RoundIcons, Freepik, Ddara, Becris from www.flaticon.com.

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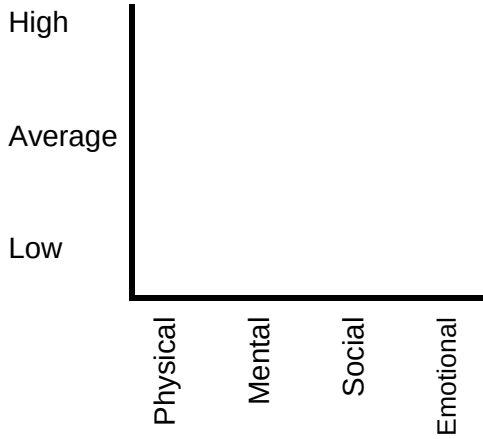
Appendix A: Athlete Profile

Athlete Profile

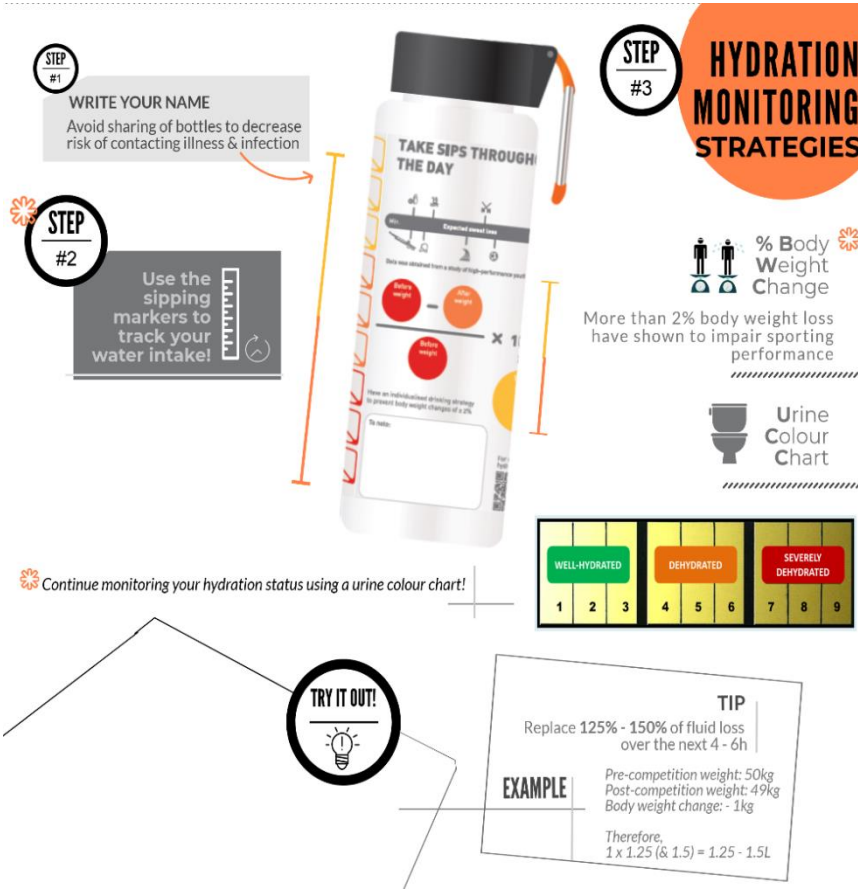
Athlete: _____

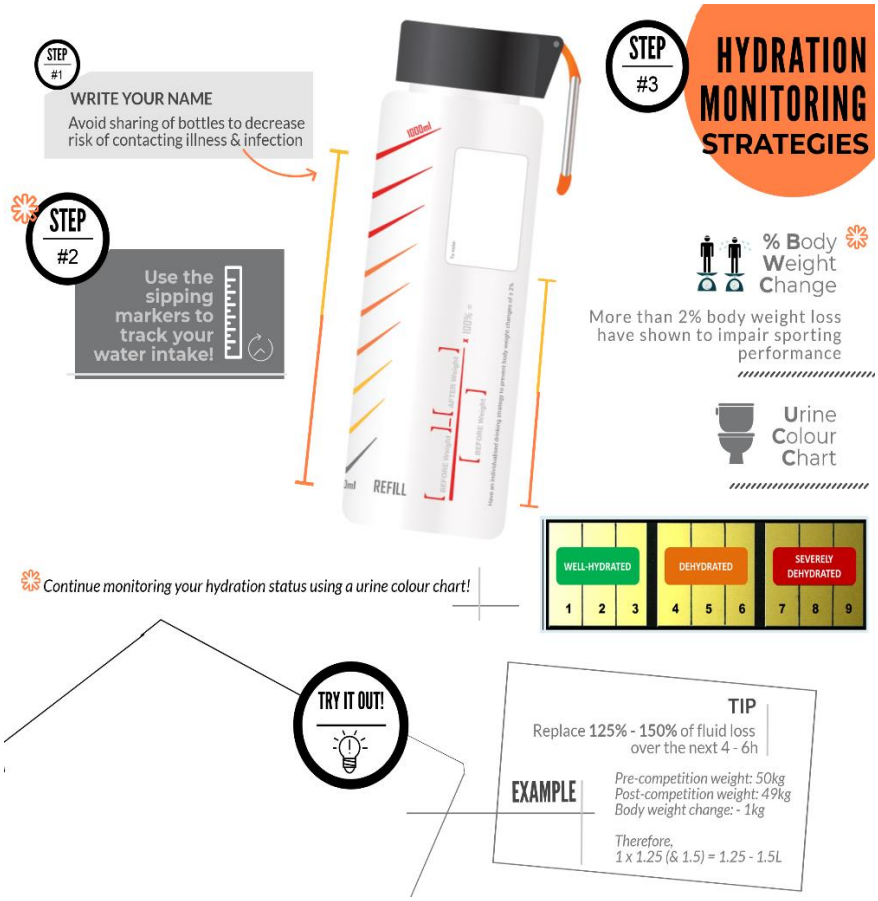
Date: _____



Domain	Behaviour Implications/Observed
Physical	
Mental	
Social	
Emotional	

Appendix B: Hydration Worksheets for Athletes




STEP #1
WRITE YOUR NAME
Avoid sharing of bottles to decrease risk of contacting illness & infection
STEP #2
Use the sipping markers to track your water intake!
REFILL
STEP #3
HYDRATION MONITORING STRATEGIES
% Body Weight Change
More than 2% body weight loss have shown to impair sporting performance
Urine Colour Chart
WELL-HYDRATED
DEHYDRATED
SEVERELY DEHYDRATED
1 2 3 4 5 6 7 8 9
Continue monitoring your hydration status using a urine colour chart!
TRY IT OUT!
TIP
Replace 125% - 150% of fluid loss over the next 4 - 6h
EXAMPLE
Pre-competition weight: 50kg
Post-competition weight: 49kg
Body weight change: - 1kg
Therefore,
1 x 1.25 (& 1.5) = 1.25 - 1.5L

Annex A: A Summary Of Key Considerations For Different Sports

Sport	Nutrition	Sport Injuries	Mental Skills
Badminton	Fluids must be consumed after sets; Significant muscle glycogen utilisation	Thigh and back strains, ankle sprains, back strains/sprains, growth plate injuries, patella tendinopathy, stress fractures	Playing under pressure
Basketball	Fluids must be consumed on court sidelines; Significant muscle glycogen utilisation	Ankle sprains, finger sprains, finger fractures, knee sprains, growth plate injuries, Osgood-Schlatter's disease	Team Dynamics Communication
Bowling	Fluids must be consumed during breaks. Extended team events (>3 hours) may require carbohydrates-containg snacks.	Finger sprains, wrist and elbow related tendinopathies, ankle sprains, knee sprains, patella-femoral pain syndrome, shoulder strains, low back strains	Emotional Control
Gymnastics	Fluids must be consumed between events (if applicable)	Back strain/sprain, wrist sprains, ankle sprains, medial tibial stress syndrome (shin splint)	Pre-competition routines
Netball	Fluids must be consumed on court sidelines; Significant muscle glycogen utilisation	Finger sprains, ankle sprains, shoulder strains, knee strains/sprains, Osgood-Schlatter's disease, achillies tendon strain	Team Dynamics Communication

Sport	Nutrition	Sport Injuries	Mental Skills
Swimming	Fluids must be consumed between events; Significant muscle glycogen utilisation	Shoulder strains, knee strains, neck and back strains	Pre-competition routines Dealing with Pressure
Sepkaw Takraw	Fluids must be consumed on court sidelines; Significant muscle glycogen utilisation	Neck strains, thigh muscle strains, knee and ankle sprains	Team Dynamics Communication
Table tennis	Fluids must be consumed after rallies (if possible) ; Significant muscle glycogen utilisation	Elbow strains, thigh muscle strains, ankle sprains	Playing under pressure
Track and Field	Fluids must be consumed during breaks; Significant muscle glycogen utilisation	Patella and Achilles tendinopathies, growth plate injuries, stress fractures, Osgood-Schlatter's disease, thigh and calf muscle strains	Pre-competition routines
Volleyball	Players must drink at the bench; Significant muscle glycogen utilisation	Finger sprains, finger fractures, knee sprains, growth plate injuries, Osgood-Schlatter's disease, ankle sprains, patella and Achilles tendinopathies	Team Dynamics Communication