

# SUPPLEMENTS

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You train, you eat, you hydrate, and you sleep.

And you do this on repeat.

You're committed to your sport.

In the same way, you need to commit to anti-doping, so that everything you do is in line with the anti-doping rules, including being aware of the inadvertent doping risks that exist in everyday life.

And one of the biggest inadvertent doping risks is associated with the use of supplements.

You need to understand what the risks are to protect your sporting career and your health.

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# Lesson 1

## WHAT TO EXPECT FROM THIS MODULE

In this module you will learn about...

- How to take a "food-first" approach
- What supplements are and why they might be used
- The risks associated with using them and how to manage those risks

### Learning objectives

By the end of this module you should be able to:

1. Make well-informed decisions regarding food
2. Make informed choices about if, when, why and how to select and use supplements
3. Seek medical or professional advice prior to using a supplement
4. Plan how to limit the risks associated with supplement use

Our first aim is to make you aware of the "food-first" approach. Our second aim is to help you understand the risks associated with supplement use so you can avoid inadvertent doping.

## Lesson 2

### WHY IS USING A SUPPLEMENT RISKY?

#### Here is a story

Athlete M, a weightlifter, was beginning to experience muscle fatigue unusually after each repetition set. She had been working hard in training sessions, knowing what she needed to achieve to meet the required standard for an upcoming competition. But, her body was struggling.

She was not seeing the results in training she hoped for and with the pressure of the competition mounting. Athlete M was starting to get anxious.

After 10 days of feeling like this in training, and her levels of anxiety and frustration increasing after each session. Athlete M did a quick online search to see if any other athletes had faced the same challenge.

She followed a few athletes who had experienced the same situation and ended up in an online chat forum where athletes were talking about a supplement product that claimed to help minimize fatigue and promote faster recovery from training.

Perfect, she thought. Just what she needed.

But she was still a little wary. Was this the right move? She was unsure about what to do but she was also fed up with not being able to train effectively.

So, she read a few more of the athletes' chat comments, which reassured her... and she decided to order the supplement.

After buying and using the supplement, Athlete M competed in her

competition. She was then tested.

A few weeks later, Athlete M was notified by her Anti-Doping Organization (ADO) that her sample was positive.

Without knowing, Athlete M had used a supplement that was contaminated. Unfortunately, she didn't realize that there are risks associated with taking supplements such as contamination during the manufacturing process, or ingredients listed differently to how they appear on the Prohibited List (List), or that they can contain banned substances.

### **What can we learn from this story?**

- Using a supplement can be risky
- They can contain banned substances that are included on the List and can cause an athlete to test positive
- Athletes, like you, need to be fully aware of these risks
- Your decisions are fundamental to protecting your sporting career

**Yes, using supplements can be risky as they can contain banned substances that are included on the List and be harmful to your health.**

But unlike medications, which are produced to very thorough regulatory standards (meaning you can check their ingredients against the List), the manufacturing standards for supplements, in most cases, are less thorough. This means that how they list or name their ingredients can be different to a medication, and even to the List. Plus, they may, at times, make advertising "claims" as to how they work with less or old scientific research to back up such claims.

In fact, some supplements might claim that they have been endorsed or

certified by WADA or another ADO. This is not true.

WADA and other ADOs do not approve, certify or endorse supplement products.

### **Top Tip**

**Be wary of supplements that say that they are approved by WADA or other ADOs as this is not true.**

Other supplement products may say they are "safe for athletes to use" or state that the supplement "does not contain banned substances". This may also be untrue. Supplement companies are looking to market their products in a way that makes them appealing and convincing. Be wary of claims that seem too good to be true.

**Supplements are one of the main causes of inadvertent doping.**

### **So, what is a supplement?**

In general, supplements are manufactured products like pills, capsules, powders, gels, drinks and bars that contain nutrients, herbs, amino acids or other substances that can affect the body. These are typically available over-the-counter and meant to "supplement" the diet.

But be aware, there are legally available products on the market that may be harmful to your health, may have negative effects on your performance, and may cause you to test positive.

You see, the regulations for how supplements are manufactured can be less strict than those for medications; and, the manufacturing and sale of supplements can be tightly regulated in some countries but often these regulations are not enforced.

This means that the ingredients a supplement contains, their quality (how pure they are), how they are listed on the label, and where the supplement is purchased can create risks.

① There is risk in the use of supplements and the potential for harm for all people. But, there can be increased risks for minors. Be aware that most supplements are made for adults and can be damaging if used by young athletes.

Before using a supplement, Athlete M had options. To start with, she could have considered her diet and assessed what changes could be made to effectively support the demands of training.

## Lesson 3

### TAKING A FOOD-FIRST APPROACH

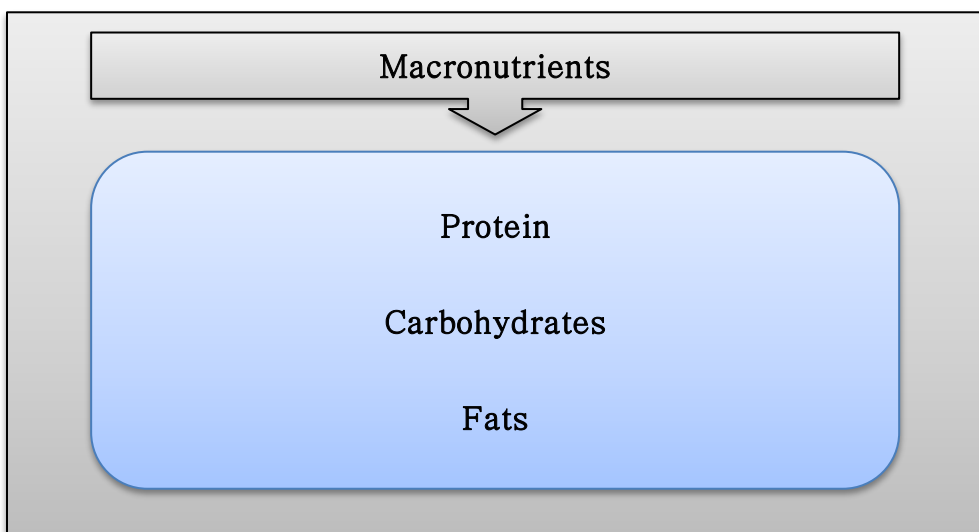
A common misconception about supplements is that they are a replacement for food or even superior to food. This is not true. They are not a shortcut to good nutrition.

And, if you're eating well and getting the balance of nutrients and energy you need, it's likely that using supplements is unnecessary.

**A “food-first” approach is recommended. This means that the majority of nutritional needs can be met with adjustments to diet.**

**Food is fuel. Optimizing your diet to meet the demands of training is the first step.**

Whether you have support from a sports nutritionist or dietician or not, you should have a good understanding of food and how it can aid performance in the same way that you understand the other elements that aid performance such as effective training, physical conditioning, mental health, rest, recovery and hydration.



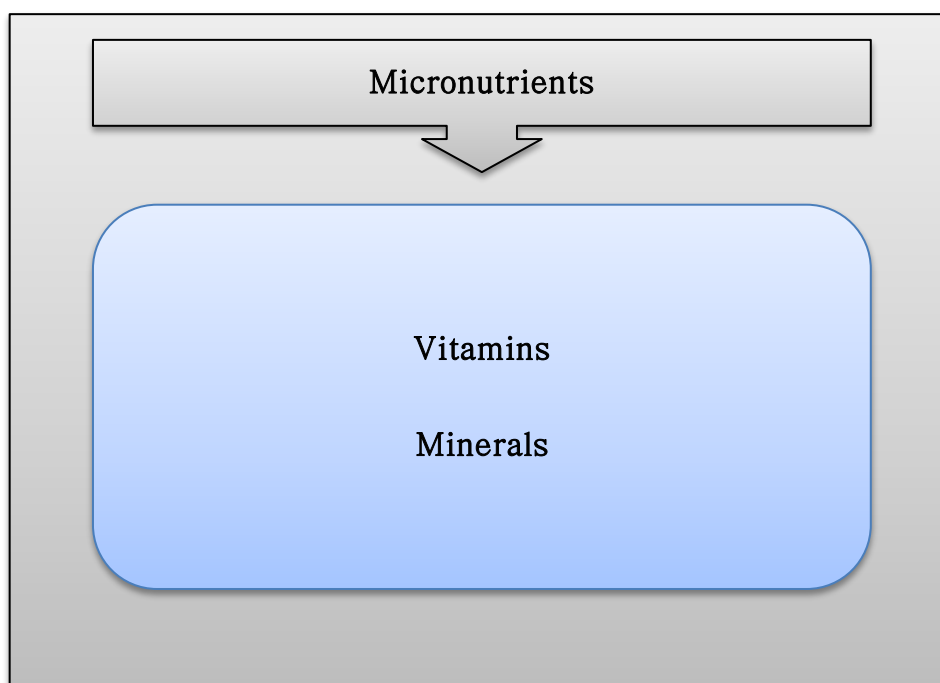
Protein, fats and carbohydrates are all macronutrients. They are all important and needed in large quantities as compared to micronutrients in your diet.

All macronutrients provide your body with energy, which is measured in calories.

You need protein from food to help with growth and repair of your tissues. Along with muscles, organs, hair and nails, protein also makes up the enzymes that power chemical reactions in your body and the part of your red blood cells that transports oxygen, a key to having energy.

Fats are needed for many functions in your body including the production of hormones, the absorption of vitamins, building cell membranes and even for the insulation of your nerve cells.

Carbohydrates are your body's main source of energy. When they are broken down into their simplest form, carbohydrates are made up of glucose, which is what your brain needs to function.





Vitamins and minerals are micronutrients and are needed in small amounts (as compared to macronutrients). They are vital to development.

There are fat-soluble vitamins (vitamins A, D, E, K) and water-soluble vitamins (vitamins B and C). Fat-soluble vitamins dissolve in fat and can be stored in your body. To absorb these vitamins you need fat in your diet. But, water-soluble vitamins can't be stored so if they aren't used by the body they get flushed out in your urine.

Minerals are present in the soil and water, get absorbed by plants and then eaten by animals and humans. Examples include calcium, iron, sodium, potassium, iodine and zinc.

But, can' t I also get  
vitamins and minerals  
from supplement?



Remember, food is the recommended first choice for your vitamin and mineral need. With supplements, it is possible to consume too much of one vitamin or mineral, which can have serious adverse effects that can be dangerous to your health. You should always consult a medical professional before using supplements as a source of vitamins and minerals.

Choosing the right nutrient-dense foods allows you to optimize the way your body functions as well as avoid having to take supplements unnecessarily. Nutrient-dense foods are essential for effective training and recovery.

**A diet based on healthy eating principles but optimized to meet the energy demands of your sport can help you maximize your training efforts, aid recovery and help reduce the risk of injury.**

## **How do you know what to eat and when?**

If you're unsure, ask for help from a medical professional or a qualified sports nutritionist or dietitian. Talk to them about your sporting goals and your training schedule and find options that work best for you.

They can also help with meal planning so you know what to bring to the gym or to the field, or what to eat leading up to a competition.

And don't worry – sometimes the simplest of changes can bring beneficial results. Chocolate milk is one of the best rehydration drinks!

### **Top Tip**

**If changes to your diet haven't given you the results you were looking for, before using a supplement, seek advice from a medical professional.**

## Lesson 4

# TALKING TO A MEDICAL PROFESSIONAL

After analyzing your diet and making any necessary changes, and before making a decision about using a supplement, talk to medical professional or qualified sports nutrition professional.

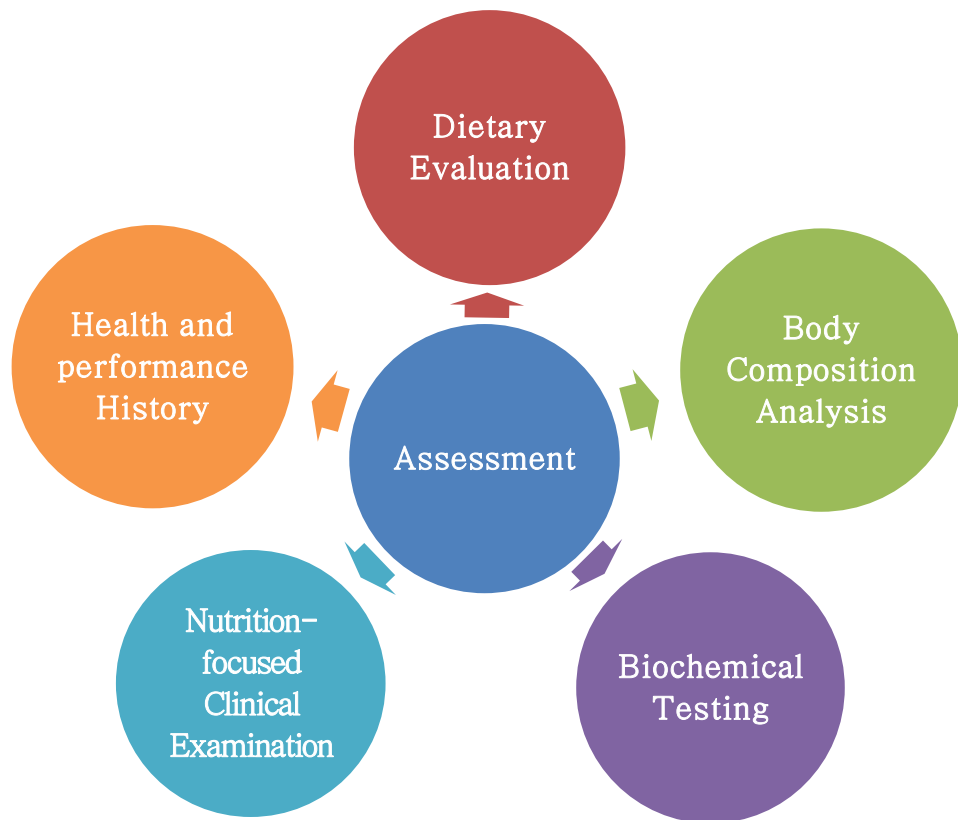
But, before advising you, they need to know that you are an athlete and that you must abide by the anti-doping rules.

Then, there are a few key questions you should ask.

### 1. Does my body need the supplement?

Once the medical professional is aware that you are subject to the anti-doping rules, they can help you make an informed decision by first conducting a nutrition assessment.

An assessment should include the following:



**Any nutrition assessment should provide recommendations for how you should optimize your diet as the first step – remember, "FOOD FIRST".**

If your diet is optimized and you still have nutritional deficiencies, or if you are still unable to meet the energy demands of training, then a supplement may be recommended.

Understanding your physiology and metabolism (how it uses food/nutrients) is important before using a supplement. This is because you are unique and your body's needs will be different than someone else's (even if they are your teammate or competitor and are participating in the same sport – which is also a reason why you should never use someone else's supplements).

If there is a medical or nutritional need for you to be recommended a supplement, then the medical professional should also be able to talk to you about the risks associated with taking that supplement.

Make sure you have a full understanding of what supplement is being recommended, why it is being recommended, and the risks involved with using supplement products.

## **2. Will the supplement will have the desired effect?**

Some supplements are made with high-grade ingredients and can offer some benefits, for some people. But others are made from poor quality ingredients and some make far-reaching claims about their benefits that may not be significantly supported by research or evidence. Really think through claims made on the labels of supplements – generally, if it sounds too good to be true, then it probably is.

And remember the **PRINCIPLE OF STRICT LIABILITY**:

**Whether you intended to cheat or not, if a banned substance is found in your system, even as a result of taking a supplement, or following the recommendation of a medical professional, you are responsible.**

## **3. Does the supplement have the potential to cause any health problems?**

You need to ask and research whether the supplement has the potential to cause any health problems.

With the help of a medical professional, you should always:

1. Check the labels thoroughly

2. Research ingredients
3. Ensure that the quantities of ingredients in the product as well as the doses advised do not present a health risk

**Remember, if you test positive, you will have to prove that you have conducted significant research and that the supplement was contaminated.**

### **Top Tip**

**If after asking all these questions it is deemed necessary for you to use a supplement, choose a batch-tested supplement.**

## Lesson 5

### IF ABSOLUTELY NECESSARY, CHOOSE BATCH-TESTED

If a supplement is deemed essential and all the other questions have been asked, then it is recommended that a batch-tested supplement is used.

A batch-tested supplement cannot remove all risks associated with supplements. However, it can significantly reduce them.

#### What is a batch-tested supplement?

In some countries, in order to minimize the risk, there are programs that screen supplement products for banned substances.

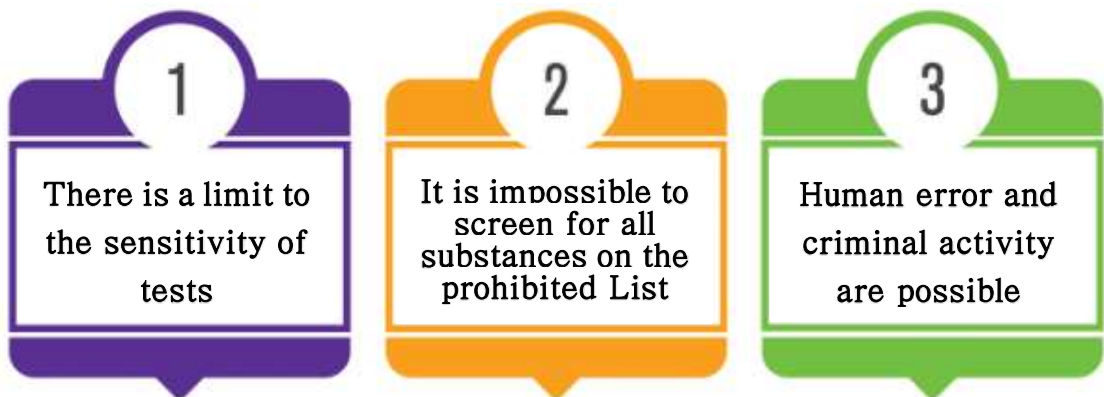
Programs differ in how they operate so you should ensure you are fully aware of the limitations of the program as well as the benefits.

It is also important to remember that a product bought in another country may not be screened and may contain different ingredients even if it is made by the same company.

Typically, these batch-testing programs test things like: the manufacturing equipment, the raw ingredients, and the final product. In some cases, they repeat tests of the final product as new batches are made or do tests on shop bought supplements.

Supplement manufacturers pay for their products to be tested. Once passed, they will have some form of mark or symbol to say they have been screened and should have a batch-test certificate.

Be wary – batch-testing means just that, it is a test of one batch. If you are going to use a supplement, choose one with the same manufacturing reference or label as the batch certificate given by the screening company. You should get a copy of the batch-test certificate and keep it safe in case anything goes wrong. And remember:



There is no way to guarantee that any supplement product is free from banned substances.

If you choose to use supplements you need to understand the risks involved and equally understand that you must take action to minimize these risks prior to using any supplement product.



# Lesson 6

## MINIMIZING THE RISKS

We've already discussed some ways you can minimize these risks, so let's review.

- ① You've looked at your diet and made any changes needed.
- ② You've spoken to a medical professional and had a nutritional assessment.
- ③ If the medical professional has determined that a supplement is required for health purposes you've done thorough research and found a batch-tested product.
- ④ You've only bought a batch-tested product that has the same manufacturing reference or label as the batch certificate.

### Can anything else be done?

Before using the supplement, consider bringing it to the medical professional to review with you and confirm an appropriate dose.

And, if you use a supplement,

- Keep a small amount – if you test positive, you at least have the option of having your leftover sample scientifically tested to see if it was contaminated
- Keep the batch-test certificate
- Keep the proof of purchase, like a receipt
- Keep a log of when and how much you take

### Top Tip

Keep a list of all supplements you are using (the exact names) including when and how much you take. Also keep a small amount of each, the proofs of purchase, and the batch-test certificates. This can all be useful if you test positive and you think that the substance came from a contaminated supplement.

Some banned substances can stay in your system for a long time and by the time you are informed of a positive test, you might have forgotten what supplements you took, when and how much.

It's also important to know that if you test positive and you believe it is from a supplement, you may need to prove that you undertook thorough internet research and that the supplement is likely to have been contaminated.

### Top Tip

The Code says that you must undertake thorough research before using any supplement product – make sure you do.

But, it may be hard to prove that you are not at fault or that you didn't intentionally want to cheat. So, ensure you have taken all the steps to mitigate risks and be ready to prove that you took these steps too.

**If you choose to use a supplement, always think of the "what if" and make sure you have taken the necessary steps to show what you did to mitigate the risks.**

# Lesson 7

## CONSEQUENCES

There can be significant consequences if a decision is made to use supplements especially if no consideration has been given to the risks and how to manage them.

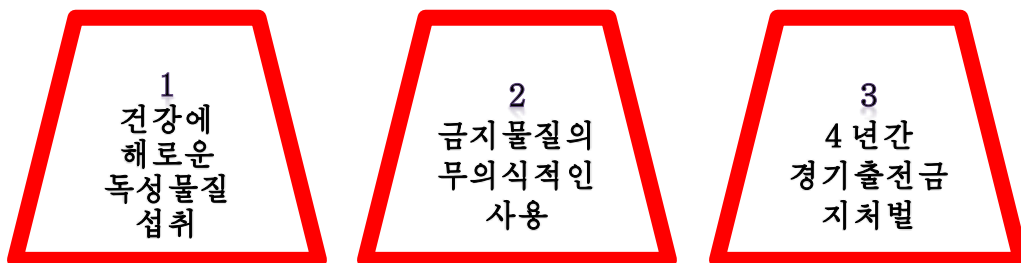
Along with receiving an ADRV and an associated sanction, which could be a 4-year ban from sport, there can be health consequences too.

You are limited with what you can do if you test positive. Proving a supplement is contaminated is not always easy and may involve some expensive testing.

**Remember to consider keeping a tiny amount of the supplement product so that it can be tested for contamination.**

If it can be proven that the supplement was contaminated, a reduced sanction is possible – the Code does recognize that supplements can be contaminated.

Remember that you must demonstrate that you undertook thorough research and other sensible steps to mitigate the risks too. Not knowing a supplement can cause a positive test is not an excuse.



## 제 8과

# FEELING PRESSURED TO USE SUPPLEMENTS?

**What if you decide not to use a supplement but others are pressuring you to do so?**

There are many moments in your sporting career where you might be vulnerable and looking for solutions or feeling pushed to use something because you think everyone else is.

But before using a supplement remember the values associated with clean sport – values like health, honesty, fairness, and fun.

**Make choices that are in line with the anti-doping rules and that protect your sporting career.**

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If you are feeling pressure, it may also be important to speak to someone like a professional psychologist or doctor and speaking with coaches, parents, teammates, partners or friends can be helpful too, but always ask yourself what their values and motivations are.

# Lesson 9

## A FINAL WORD

**Before you go, here is what you need to know**

- Food first! Your diet can be optimized to get the nutrients your body needs for general well-being as well as performance
- Consult a medical professional before using a supplement
- Ask the medical professional if changes to your diet can be made to help with any nutritional deficiencies or medical needs
- If a supplement is recommended, consider the efficacy and risk to your health, risk to your performance and your ability to continue participating in sport
- Do thorough research before using any supplement product
- If you are going to use a supplement, choose a batch-tested product and remember that the rules around the manufacturing of supplements varies
- Be wary when buying supplements over the internet – if absolutely necessary, go with a reputable company
- If you use a supplement, keep a small amount, proof of purchase, the batch-test certificate and a log of when and how much you take
- The principle of strict liability always applies: you are responsible for any prohibited substance found in your system and an Anti-Doping Rule Violation (ADRV) can occur whether or not you intended to take a banned substance

# MANAGE RISKS

And remember,

M	• Medical advice should be taken before using supplement
A	• Analyze your diet first and get what you need from food—your diet, in most cases can be adapted to meet your nutrition needs
N	• Needs assessed—use of a supplement should be based on a defined medical need not because your friends say to take it
A	• Acknowledge the risks associated with supplements and take steps to minimize these risks
G	• Go with batch-tested if a supplement is deemed necessary and keep a copy of the certificate
E	• Educate yourself—ask questions and consider the efficacy (does it work) and the potency (what ingredients at what doses)
R	• Research thoroughly any supplement product before using it
I	• Ingredients may be listed differently—by their common name, their chemical name, their biological name—research so you understand what is in the product
S	• Stay true to you. Don't fall for rumors or gossip about products—and don't feel under pressure to do what everyone else is
K	• Keep a small amount of your supplement product in case you test positive and need a sample to check if your supplement was contaminated, And keep the proof of purchase and a log too
S	• Strict liability—saying you didn't know is not an excuse