Nutrition for Umpires, Players, Coaches and Managers

This hand-out is designed to help umpires, players, coaches and managers to better understand sports nutrition so they can be prepared and can help educate themselves and others about healthy eating patterns.

In this hand-out we will cover:

- The demands of Netball
- Hydration
- Fuelling the body
- Protein Needs
- Iron
- Tournament nutrition
- Supplements

THE DEMANDS OF NETBALL

Netball is a demanding sport on the body. An understanding of the demands of Netball needs to be considered when addressing the nutritional needs of our active participants.

1) **Duration:** Netball players and umpires may be training/on court for 10-60 mins depending on substitutions/reserve umpiring, grade of play, warm-up durations and intensities.
2) **Intensity:** Netball players and umpires need to be able to perform regular high intensity bursts of speed, power and agility. This may vary slightly depending on the level of the game and playing positions on court.
3) **Rest Time:** This includes time between both games and trainings. As you read through this hand-out you will see how nutritional strategies can be tailored to suit the demands on Netball players and umpires.

HYDRATION

One important aspect of nutrition is hydration. It is important to ensure each player / umpire has one (or more) water bottle(s) for training and games.

Why is it so important?

If you become dehydrated your blood volume decreases. It forces your heart to beat faster to supply the same amount of blood and oxygen to your working muscles. The higher your heart rate becomes, the more fatigued you fell and the harder it becomes to perform well. Focus and concentration tends to decline with dehydration resulting in an increased rate of errors and/or handovers.

How much should players / umpires drink?

This depends on many factors:

- How hydrated is the athlete before playing?
- How long is the athlete on court?
- What is the temperature?
- What position does the player play?

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A player should:

- Turn up hydrated
- Take small regular sips during a game.
- Increase fluid intake in hot and humid conditions

The NetballSmart drink bottles have a rough guideline on how much water to be drinking. Remember no matter how well you plan your meals, if dehydrated your performance will suffer by up to 15%. Hydration is essential.

SHOULD SPORTS DRINKS BE RECOMMENDED?

The short answer is sports drinks should not be recommended. Water is sufficient.

Sports drinks aim to speed up the absorption of water into your body, provide some carbohydrate to fuel muscles and provide electrolytes to replace losses.

Essentially they are made up of water, sugar and salt. However, athletes on court for less than 30 minutes will likely receive no benefit from replacing water with a sports drink.

Athletes working for longer durations or multiple games (e.g. in tournament situations) may be able to reduce fatigue in the later stages of the game or games by supplementing their fluid intake with a low sugar/high electrolyte sports drink.

FUELLING THE BODY

The body has a number of systems for supplying itself with energy. Some of these systems are slow and long lasting. Others are powerful over short durations. The body can also call on a number of different macronutrients (fats, carbohydrates and proteins) to supply the energy required. Have a look at the following energy sources:

Stored ATP: Can supply rapid energy very quickly however will be exhausted in seconds.

Blood glucose: Small source of readily available glucose that can be transported to the working muscle.

Glycogen: Stored glucose molecules (in the liver and muscles) easily broken down to supply the energy needed to maintain blood glucose and pace on the Netball court.

Fats: The bodies' largest and most efficient source of energy. This is a slower process taking longer to release the energy. Note that fat will not be utilised until glycogen stores are depleted.

Proteins: The body can also break down protein to supply energy.

All these systems are working together at the same time; however, depending on the demands placed on the body, one system will generally dominate. In a Netball game the high intensity calls for glycogen to be used as it can supply energy more quickly than fat. During prolonged exercise this reserve of glycogen is slowly depleted and results in fatigue. More so if glycogen is depleted the body will be forced to switch to fat oxidation, causing the pace and agility of the player to decrease.

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WHAT DOES THIS MEAN?

It means the body needs adequate glycogen stores in its muscles and liver before playing / umpiring.

1) Eat 2-3 hours before playing. If you have an early game and cannot stomach any food you could try a glass of fruit juice.
2) Eat straight after the game. Consume carbohydrate rich foods to maximise glycogen synthesis.
3) Be prepared during prolonged (60min+) exercise sessions or multiple games. Small snacks in-between playing will boost blood glucose levels and spare muscle glycogen. This is where sports drinks can have an advantage over water. This is the same logic behind oranges at half time. Try to stay away from lollies particularly for younger athletes as we want to encourage long term healthy eating habits.

PROTEIN NEEDS

Protein helps us to feel full, repair our bodies and grow our muscles. Different bodies need different quantities of protein however a recommended intake of protein is 1.2/kg of body weight.

There is often the notion that the more protein consumed the better. Unfortunately, this does not appear to be true with additional protein being metabolised (broken down for energy or stored as fat).

A well balanced diet will likely supply all the protein you need as opposed to needing supplements. An exception to this is if a player is on a low calorie diet or any diet that restricts protein intake.

IRON NEEDS

Teenage female athletes are at the highest risk for depleting iron stores. A large percentage of Netball participants fall in to this category so it is important to be aware of this.

How does iron get depleted?

Iron is an important part of haemoglobin (oxygen carrying molecules) in the blood, this accounts for 60-70% of all iron in the body.

Demand for iron is increased with high exercise loads, during growth spurts and during menstruation.

When this increased demand for iron is not met by diet, iron stores are depleted which can lead to fatigue and poor endurance.

How to minimise the risk of low Iron stores

Add iron rich foods to your diet. Eat these foods alongside foods high in Vitamin C to enhance absorption of iron.

High sources of Vitamin C include citrus fruits and their juices (e.g. oranges) and vegetables such as peppers (green and red) and broccoli

Note: Iron supplements should be a last resort: diet is the best way to improve iron status.

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Iron Rich Foods

Rump steak, lamb, eggs, pork, tuna (animal products contain the most absorbable iron), iron fortified cereals (check nutrition information on packets), Milo, baked beans, porridge, green vegetables of all kinds (spinach, broccoli and brussel sprouts)

Inclusion of meat, poultry and seafood alongside Vitamin C will greatly improve iron intake.

TOURNAMENT NUTRITION

Pre-tournament preparation

In the last few days leading up to a tournament make sure all athletes are well rested and well fed. Tournaments can often lead to drastic changes in diet due to the ease of convenience foods and a lack of organisation.

Remember that your athletes will have been performing already without fancy sports drinks, energy bars and liquid breakfasts. If athletes (coached / managers) do decide that new food / hydration items should be used before or during a game, make sure to test the nutrition during training.

By testing the nutrition change you eliminate the possibility of athletes experiencing any negative side effects at the tournament from consuming new foods before participation. Athletes can also reflect on how they felt and if any improvements are needed.

What food should we bring to tournament?

Be organised. Planning enough meals is the first step at avoiding convenience foods. You will need:

- Breakfast
- Lunch
- Dinner

for as many days as you are away.

These meals should be carbohydrate rich and contain a good source of protein.

Examples: scrambled eggs on toast, Weet-Bix and milk fruit smoothies, chicken filled rolls, baked potatoes, pasta bakes, yoghurt and muesli etc.

You will also need:

- Drink bottles - staying hydrated is very important
- High carbohydrates snacks - for directly after games and between games (see below)
- Alternative meals for anyone with special dietary requirements
- Fruit and vegetables

Good tournament snacks include: muesli bars, bananas, sandwiches, flavoured milk, fruit smoothies, dried fruit etc.

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TOURNAMENT NUTRITION

Hydration is your key priority followed by a focus on reserving energy sources (glycogen) through smart snacking and recovery.

Hydration: Don't feel like athletes need to be force fed water. As long as they have a drink bottle handy they will likely be drinking enough. Just don't let them go without water for long periods of time especially during training / games. Dedicated water breaks can help remind athletes to drink.

Snacking smart: To spare glycogen while playing / umpiring, consume a small carbohydrate snack at half time (oranges work well). When there is less than 8 hours between games it is important to have a high carbohydrate snack (1g carbohydrate per kg body weight) within 30 minutes of the end of the game (the sooner the better)

Main Meals: Snacks do not replace lunch. Make sure athletes have time to sit down for a proper meal. Hydrating and snacking smart will help keep energy levels and performance high.

Ensure your main meals include a source of protein and carbohydrates. Protein will help with recovery. A tuna bake with some vegetables thrown n is a good example of combining protein and carbohydrates into a meal.

Sleep is equally important to performance. Ensure athletes have a good night's sleep (8-10 hours is optimal).

The aim is that they will wake up to an organised breakfast and repeat the hydration and post-game snacking practices throughout the day and perform to their full potential.

SUPPLEMENTS

Unless a player has a real reason for using supplements (e.g. taking iron tables for anaemia) diet should come first. A well balanced diet with foods from all different food groups (vegetables, fruit, grains, protein and dairy) should provide everything a person needs. Exceptions for this are individuals with digestive disorders and those on calorie restricted diets.

Common supplements

Protein: Very rare for individuals that are maintaining their weight to have insufficient protein in their diet. Protein shakes won't do any damage if you wish to use them except for the fact they can be very expensive.

Multivitamins: Again often unnecessary, why not eat more fruit and vegetables and have the benefit of more fibre, flavour and fullness.

Caffeine: It is not necessary for your athletes, they should AVOID energy drinks. A good night's sleep is more beneficial for players and umpires than caffeine.

Sports drinks: as mentioned in the hydration section.

Please note, some supplements may contain 'banned' substances that might not be included on the ingredients label. It is therefore impornant to check.

For more information, please consult a nutritionist /dietician or contact the NetballSmart Programme Manager.

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