



# FUEL YOUR BODY

FOR THE TEENAGE SPORTS PERSON



**SENr**

The Sport and Exercise Nutrition Register

In association with the British Dietetic Association

be **safe** be **healthy** be **well**

## FIND OUT WHAT YOUR BODY NEEDS

As a teenage athlete, your active lifestyle and growing body means you have special nutritional needs.

You need to start with the basics of a healthy and varied diet. There are no quick fixes – supplements, in particular, are not recommended for teenagers.

This booklet is packed with information about what to eat and drink to perform at your best in sport, stay healthy and feel great.

### GET THE MOST FROM YOUR BODY

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- Never skip meals – *especially breakfast.*
- Drink plenty of fluids.
- Eat good sources of protein every day.
- Eat lots of carbohydrate foods throughout the day.
- Don't forget fats are important – *choose healthier food sources.*
- Eat at least five portions of fruit and vegetables each day.
- Include good sources of iron and calcium – *teens need more of these nutrients than other ages.*
- Make sure you enjoy your meals and snacks.
- After intense sport you will be more hungry; don't ignore these hunger signals.
- Get enough rest and sleep – *give your body time to grow and recover.*



# GET THE BASICS RIGHT

Eating the right foods, and enough of them, will help you perform to the best of your ability. Read on to find out what your body needs to keep going.



Courtesy of the Irish Rugby Football Union

## FUELS FOR EXERCISE CARBOHYDRATES

Carbohydrate (carbs) and fat are the two main fuels for exercising muscles. Protein is needed for muscle growth and repair.

You need to eat more than half of your calories as carbohydrate everyday – so include carbs at every meal and most snack times. Your body only stores a small amount of carbohydrate so you need to keep your stores topped up.



### HOW TO EAT MORE CARBS

The more sport you do, particularly high intensity sport, the more carbs you will need to eat.

#### POTATOES, RICE AND PASTA

- Eat larger portions with your main meal – *half your plate should be filled with these foods.*
- Add these to soups.
- Eat these with stews, curries and tomato-based sauces.
- Mix these with beans, peas, sweetcorn and raisins to make tasty salads.

#### BREAD AND PIZZA

- Use thicker slices of bread or try a triple-decker sandwich!
- Choose thick-based pizzas instead of thin.

#### BREAKFAST AND SNACKS

- Add chopped fresh or dried fruit to breakfast cereals or yoghurts.
- Make your own 'high carb' smoothie with fresh or tinned fruit and yoghurt.
- Have breakfast cereal at other times of the day.
- Cereal bars and fruit or fruit juice\* can help fill gaps between meals.

#### \*TOP TIPS FOR HEALTY TEETH!

Eating sugary carbohydrate foods and drinks make your teeth more at risk from decay. Many sports drinks are also acidic and can attack your tooth enamel. So make sure to brush and floss your teeth regularly. Use a straw when drinking sugary or isotonic drinks. Rinse your mouth with water after a snack or meal.



Choosing the right types of carbohydrates is important. Here are more tips.

## STARCHY CARBS

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### Eat more of these foods

*Try to base every meal around a large portion from this group.*

- High-fibre breakfast cereals such as porridge
- Breads – *all types*
- Potatoes, pasta, rice, couscous, noodles
- Juices and smoothies made from fruit or vegetables
- Pizza bases, pitta bread and tortilla wraps
- Crackers, crisp breads
- Cereal bars or popcorn
- Fruit – *fresh, dried, stewed or tinned*
- Vegetables – *especially sweet potato, root vegetables (for example carrots or turnips), sweetcorn, beans (for example kidney or butter beans), peas and lentils*

## SUGARY CARBS

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### Choose these foods less often

*Remember to take care of your teeth!*

- Sugar-coated breakfast cereals
- Boiled sweets, jellies
- Fizzy drinks, fruit squash
- Sweetened fruit juices
- Yoghurt
- Cakes – *for example jam sponge, biscuits, muffins*
- Jam, honey, marmalade
- Sweet desserts - *for example meringues, ice cream, jelly*
- Sports energy drinks

*Most teen athletes won't need sports gels and energy bars. If you want to use these, only do so under the supervision of your sports dietitian, registered sport and exercise nutritionist or coach.*



## FUELS FOR EXERCISE

### FAT

Everyone needs a certain amount of fat each day to stay healthy.

#### THE RIGHT TYPE AND THE RIGHT AMOUNT

When you think of fat it's important to think of the right type and the right amount. Healthy fats are found in foods such as vegetable oils, oily fish (for example salmon, sardines, mackerel), nuts or avocados. Foods containing less-healthy fats include crisps, pastries and fried foods – limit how much of these you eat.

#### FAST FACT!

If your diet is too low in fat it may be difficult to provide your body with enough energy for your sport. If there is too much fat in your diet, you could become overweight.



#### THE HEALTHY OPTION

- Grill, boil, steam, braise, stir-fry or microwave your food.
- Trim all visible fat from meat and skim fat from the top of stews and casseroles.
- Try including lean red meat, chicken, turkey and fish in your diet instead of processed meat for example processed ham, sausages, hotdogs.
- Use low-fat monounsaturated or polyunsaturated spreads, for example spreads made from sunflower oil.
- Use mayonnaise and high-fat spreads sparingly.
- Choose low-fat or vinegar-based dressings, mustard or chutney on sandwiches.
- Choose yoghurt or fromage frais instead of cream.
- Try frozen yoghurt as dessert alternatives.
- Choose low-fat milk and yoghurt and choose cheeses such as 'light' cheddar, edam, gouda, feta, camembert, cottage or low-fat cheese spread.
- Have baked, boiled or mashed potatoes instead of chips.
- Choose healthier snacks between meals such as fruit and starchy foods.
- Choose boiled rice more often than fried.
- Order pizza with less cheese on top.
- Remember, it's OK to have some treats, just avoid eating these foods too often.



# FUELS FOR EXERCISE

## PROTEIN

Your body needs protein for growth, maintenance and tissue repair. Most people get plenty of protein through a varied and balanced diet.

### EXCELLENT PROTEIN FOODS INCLUDE

- Lean red meat
- Pulses
- Soya and tofu
- Eggs
- Chicken, turkey
- Yoghurt
- Nuts
- Low fat milk
- Fish
- Cheese

If you are vegetarian or vegan make sure your diet includes some good vegetarian or vegan sources of protein from the above list.

### WARNING!

Protein powders and protein shakes are not recommended for teenage athletes. It's not true that you need huge amounts of protein to 'bulk up'. You will get plenty of protein by including the foods listed here in your diet.



# VITAMINS AND MINERALS

## IRON

A varied and balanced diet, which includes at least five portions of fruit and vegetables each day, should provide more than enough vitamins and minerals.

Vitamin C helps your body absorb iron from foods. Include fruits and vegetables that are rich in this vitamin with your meals, such as one glass of unsweetened fruit juice or vegetables.



As a teenager you're still growing and this means you need more iron than you used to. Teenage girls also need to replace the iron their body loses during their periods.

**Aim to eat lean red meat two to three times a week – it's the best source of iron you can get! If you are vegetarian, you need to pay particular attention to your iron levels.**

### GOOD SOURCES OF IRON

#### BEST SOURCES

- Lean red meat (beef, lamb, pork, bacon)
- Chicken, turkey – the darker meat is a better source of iron
- Fish (especially mackerel, haddock, sardines).

#### OTHER SOURCES

- Fortified breakfast cereals (those with added vitamins and minerals)
- Eggs
- Pulses (peas, beans, lentils, chickpeas)
- Dried fruit (apricots, raisins, figs)
- Dark green vegetables (spinach, broccoli).





# CALCIUM

As a growing teenager you need more calcium than an adult. It's important to get enough calcium from your food to make sure you have strong, healthy bones as an adult. You also need calcium to keep your heart and nerves working properly. Make sure you eat three portions of calcium-rich foods every day.

## FAST FACT!

Vitamin D helps you absorb calcium from your foods and is very important in building healthy bones. Food sources that are high in vitamin D include oily fish and fortified low-fat milks and spreads. Getting out in the sunshine will also help your body make more Vitamin D.



## GOOD SOURCES OF CALCIUM

### DAIRY

- Low-fat milk and foods containing low-fat milk such as custard, low-fat milk puddings, sauces
- Yoghurt
- All types of cheese (if you eat a lot of cheese, choose low-fat versions).

### NON-DAIRY

- Calcium-enriched soya milk and soya products
- Tinned fish (with bones, for example sardines)
- Green leafy vegetables
- Nuts
- Calcium-enriched fruit juice.



## 1 PORTION COULD BE:

- One glass or mini carton of low-fat milk (200ml)
- A yoghurt (125ml)
- 28g cheddar type cheese (about the size of a matchbox)
- Two processed cheese slices
- 40g tofu
- One glass calcium-enriched soya milk, or
- 30g sardines (bones included).

Small amounts of calcium are also found in eggs, bread, fortified cereals (those with added vitamins and minerals), baked beans and vegetables. Include these foods in your diet but have foods that are richer sources too!

**KEEP HYDRATED!**

# FLUIDS

KEEP YOUR COOL

It is important to drink plenty of fluids before, during and after playing sport. Don't wait until you feel thirsty because thirst is a sign that your body has needed fluids for a while.

If a training session or competition lasts for 60 minutes or longer, consider having an isotonic sports drink to replace fluids.



## FAST FACTS!

- Water is the best choice of fluid
- Low-fat milk is effective in replacing lost fluids
- Isotonic sports drinks can be good for during and after long intense periods of sport but you should not drink these every day
- Fruit juices, low-fat milk, soups and smoothies are good sources of fluids and provide nutrients too.
- For more specific advice on using sports drinks consult a sports dietitian or registered sports and exercise nutritionist.

## HOW MUCH FLUID DO I NEED?

Drink plenty of fluid throughout the day to make sure that you are properly hydrated (your body has all the fluids it needs) when you start to exercise. Why not keep a water bottle on-hand in the classroom to make sure that you are regularly topping up on fluids? Practice drinking fluids during training to prepare for events or competitions. Basic assessment and monitoring of sweat losses are required to estimate individual fluid requirements.

Checking your urine colour is a simple way to see if you are drinking enough fluids – your urine should be a pale yellow colour. If it's darker than number three on the Pee Chart you need to drink more.

## PEE CHART



Your target is to make sure that your pee is the same colour as numbers 1, 2 and 3. Colours 4 and 5 suggest dehydration and 6, 7 and 8 severe dehydration. Armstrong LE (2000): *Performing in Extreme Environments*. Champaign: Human Kinetics.

## SAVE MONEY AND MAKE YOUR OWN ISOTONIC DRINKS

### RECIPE 1

500ml fruit juice

500ml water

1g salt (pinch)

### RECIPE 2

200ml fruit squash or cordial

800ml water

1g salt (pinch)

For the above recipes, use previously boiled and cooled water and mix all of the ingredients together until they have dissolved.

## FAST FACT!

Isotonic sports drinks contain sugar. Limit consumption of these drinks to hard training sessions and competition.



# SPORTS SUPPLEMENTS

## A QUICK-FIX TO BETTER PERFORMANCE OR A WASTE OF MONEY?

### WHAT ARE THEY?

Sports supplements come in many forms - drinks, protein powders and bars, liquid meal replacements, creatine, caffeine, herbal preparations, and more.

### DO YOU NEED THEM?

No, except where your sports dietitian, registered sport and exercise nutritionist, or doctor has recommended them. They won't make you faster, stronger or more skilful.



### ARE THEY SAFE?

Sports supplements have not been tested on teenagers or children, so there is no evidence to show they are safe for a growing body.

The following supplements **are not recommended** for anyone under 18 years of age:

- Protein powders
- Creatine
- Caffeine tablets
- Individual amino acids
- Bicarbonate buffers
- Herbal preparations
- Fat burners
- And many more.

Sports supplements could contain ingredients that are not listed on the label, so there's a risk some could lead to a positive doping test. The supplement industry is not regulated so check with your sports dietitian, registered sport and exercise nutritionist or doctor before taking any form of sport supplement.

Athletes often use multi-vitamin, iron or calcium supplements. If you include lots of different types of food in your diet, you shouldn't need to do this. However, if you have any concerns about the adequacy of your diet consult a sports dietitian or registered sport and exercise nutritionist for a nutritional assessment.

### WHAT IMPROVES YOUR PERFORMANCE?

- Eating enough to meet your growth and energy needs.
- Drinking enough to replace lost fluids and stay well hydrated.
- Individual talent and improving your sporting skills.
- Planning your training and recovering properly.

# PUTTING IT ALL INTO PRACTICE

## GET THE BASICS RIGHT!

- Start with a balanced diet – *include food from all food groups.*
- Be organised – *take suitable snacks and fluids to training sessions.*
- Eat the right foods that suit you best before training (see page 13 for ideas).
- Top up your energy levels after training with 'recovery' snacks (see page 13).
- Restore your energy levels at the end of the day - *have a good evening meal and supper.*
- Replace fluids as you need them – *don't wait until you feel thirsty.*



## KIT-BAG CHECKLIST

- Water or isotonic sports drink – *shop bought or home-made*
- Low-fat milk, low-fat ready-to-drink shakes or milk powders made up with water
- Fruit juice, diluted fruit squash
- Bread or roll with jam or honey
- Dried or fresh fruit – *bananas, mandarins, apples, raisins, dried apricots*
- Breakfast or cereal bar



## FOOD ALERT!

For two to three hours before training avoid snacks and meals that are high in fat such as fried foods, chips and crisps. These take longer to digest and you may feel unwell when you exercise.

## TOP TIP!

During training practice your food and drink regimes in preparation for events.

## PLAN AHEAD

### WHAT SHOULD I EAT BEFORE EXERCISE?

To ensure your energy levels are at their best when you exercise, eat a meal or snack that is high in carbohydrates two to three hours before you exercise.



### SOME EXAMPLES OF SUITABLE LIGHT MEALS AND SNACKS

- Porridge with low-fat milk, honey and fruit
- Breakfast cereal with low-fat milk and fruit juice
- Toast with low-fat spread and jam, honey or syrup
- Yoghurt drink and a scone with low-fat spread
- Pasta with tomato-based sauce
- Baked potato with tinned spaghetti or ratatouille
- Vegetable soup and a bread roll
- Sandwich with lean meat or turkey and salad
- Pitta bread filled with chopped banana and honey
- Low-fat creamed rice with dried fruit
- Low-fat yoghurt and fruit
- Smoothie made with low-fat milk or yoghurt, banana, mango or berries.

### WHAT SHOULD I EAT AFTER EXERCISE?

The best way to restore your energy levels is to eat a snack that is high in carbohydrates, and contains a small amount of protein. Here are some examples:

- Ham, tuna or turkey sandwich with an isotonic sports drink or water
- Flavoured low-fat milk with a banana
- Yoghurt drink with a cereal bar
- Fruit smoothie with bagel, crumpet or pancake with jam
- Pot of low-fat yoghurt, a banana and a fig roll
- Cereal bar and flavoured low-fat milk.
- Remember to replace fluids.



# WHAT AND WHEN SHOULD I EAT AND DRINK?

The sample meal plans on the next page will give you some ideas. Older teens like John who often take part in high-energy sports will need larger portion sizes and more carbohydrates throughout the day. Younger teens like Claire who play sport less often and take part in less energetic sports will not need to eat or drink as much every day.

## KNOW YOUR BODY!

What you need depends on your age, weight, sex, sport and training schedule. If you want more specific advice why not contact a sports dietitian or registered sport and exercise nutritionist.

## TOP TIPS FOR YOUR DAILY MEAL PLAN!

- Avoid drinking too much coffee or tea during the day
- High-fibre cereals are better for you
- Why not try mashed banana on toast for breakfast or as a snack?
- Have a water bottle with you in school - and drink regularly to make sure you are well hydrated
- Make sure you've had a good lunch and are well hydrated before sport
- Don't eat anything for 30 minutes before exercise and water is best tolerated up to 15 minutes before sport
- Replace the fluid you lose through sweating during training. Your body absorbs isotonic drinks and water more easily than other fluids.
- Isotonic sports drinks are advised if training lasts longer than 60 minutes.
- Make sure you have a nutritious snack after training (*see page 13 for some more ideas*)
- Don't forget to replace fluids after exercise (*see page 9 for more ideas on good hydration*)
- Have some soup and bread before your main meal or between meals if you are extra hungry
- Remember to have a nutritious bed time snack, especially on training days
- Make sure you get enough sleep for good recovery!

## SAMPLE MEAL PLAN 1

**John** is 16 years old. He plays several sports and cycles two miles to and from school each day. He trains two evenings a week after school and on Saturdays, and also plays a match most Sundays. Each training session lasts about one hour and match days include 20 minutes warm up and 30 minutes per half (60 minutes match). He is also a member of the school volleyball team which trains for one hour one day a week, after school. The team plays one to two competition matches monthly. This is an example of what John needs to eat and drink each day, based on his weight and activity.



### BREAKFAST (7.30 - 8.30am)

- Large bowl of breakfast cereal with low-fat milk
- Glass of fruit juice or piece of fruit
- Two to three slices bread toasted with low-fat spread and jam, marmalade or honey

### MID MORNING SNACK (11am)

- Fruit scone or two to three scotch pancakes
- Water or diluted squash to drink

### LUNCH (12.30 - 1.30pm)

- Sandwiches made with four slices bread
- Ideas for fillings: tuna & sweetcorn, ham, chicken, cheese or egg salad
- Yoghurt or yoghurt drink or mini cheese portion
- Water or diluted squash to drink

### PRE-TRAINING SNACK (3pm)

- Fruit (Bananas are good for energy), fruit smoothie, flavoured low-fat milk

### TOG OUT / PRE-HYDRATE (3.30 - 3.45pm)

- Water or diluted squash to drink

### TRAINING SESSION (3.45pm - 4.45pm)

- Replace sweat lost during training using isotonic fluids or water as required (see page 9)

### RECOVERY/RE-HYDRATE POST TRAINING (5 - 5.30pm)

- Glass of low-fat milk with banana; cereal bar or sandwich with fruit juice or fruit smoothie
- Drink fluid as required (more information on page 9 and 10)

### DINNER (6.30 - 7pm)

- Meat, fish, vegetarian choice with large portion of potatoes, pasta or rice and lots of vegetables
- Fresh fruit with yoghurt or fruit crumble with custard or vanilla ice cream
- Water or diluted squash to drink

### SUPPER (9-10pm)

- Bowl of cereal with low-fat milk or bread toasted with melted low-fat cheese
- Water, diluted squash or fruit smoothie to drink



## SAMPLE MEAL PLAN 2

**Claire** is 14 years old and plays several sports including basketball and tennis. She is a member of the school basketball team which trains for one hour one day a week, after school. The team plays one to two competition matches monthly. She is also a member of the local tennis club and plays sports there during the weekend. This is an example of what Claire needs to eat and drink each day, based on her weight and activity.



### BREAKFAST (7.30 - 8.30am)

- Breakfast cereal with low-fat milk
- Glass of fruit juice or piece of fruit
- One to two slices bread toasted with low-fat spread and jam, marmalade, honey

### MID MORNING SNACK (11am)

- Drinking yoghurt or a piece of fruit
- Water or diluted squash to drink

### LUNCH (12.30 - 1.30pm)

- Pitta pocket filled with tuna & sweetcorn, or ham, chicken, cheese or egg salad
- Fruit smoothie or yoghurt
- Water or diluted squash to drink

### AFTER SCHOOL SNACK (3.45pm - 4.45pm)

- Glass of low-fat milk with slice of toast with sandwich spread or jam

### DINNER (6.30 - 7pm)

- Meat, fish or vegetarian choice with potatoes, pasta, rice and vegetables
- Fresh fruit with yoghurt
- Water or diluted squash to drink

### SUPPER (9-10pm)

- Bowl of cereal or slice of toast with melted low-fat cheese, or beans with a glass of low-fat milk

This booklet provides general advice for 13- to 17-year-olds who are involved in sport. For more specific advice, contact a sports dietitian or registered sport and exercise nutritionist.

## **safefood**

**safefood** is the all-island agency responsible for promoting messages about food hygiene, food safety and healthy eating. For more information, please visit **[www.safefood.eu](http://www.safefood.eu)**

The British Dietetic Association is the professional association for dietitians in the UK. For more information, please visit **[www.bda.uk.com](http://www.bda.uk.com)**  
**[www.senr.org.uk](http://www.senr.org.uk)**

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