

Nutrition

General Advice

There are 3 key time frames for sports nutrition:

- Pre-Training/Game
- During Training/Game
- Post Training/Game

Pre-Training/Game Nutrition

Pre-training or game nutrition does not start in the hours before the game or session, but in the days and weeks before hand. Adequate nutrition over a prolonged period of time will lead to an improved performance.

The major part of every meal consumed should consist of a source of carbohydrate — such as pasta, rice or potatoes. Added to this is a good source of protein such as lean meat, chicken or fish. Vitamins and minerals are important to ensure that the body can make the best use of the carbohydrate and proteins ingested, so a good range of fruits and vegetables should be consumed at meal times and throughout the day as snacks.

In the week leading up to an important match, there should be a gradual increase in the amount of carbohydrate consumed to ensure that stores are topped up. If the increase is sudden the benefits will be lost, and this, in fact, can prove detrimental.

Match Day

Any meal taken on match day should be taken 2—4 hours prior to throw in to allow for digestion. If you suffer from nerves or anxiousness before a game, it is possible to replace a meal with a liquid meal.

The match day meal should again consist of a good source of carbohydrate, such as pasta, as well as a source of protein, such as lean meat or chicken.

You can also have some fruit available to maintain the carbohydrate intake.

Fluid intake is important at this time, see Hydration Fact sheet for information on how to assess your hydration status and maintain your fluid intake.

During Training/Game

During training or a game, replacing fluids and fuel lost is the most important element of nutrition.

You should have access to a sports drink and water during training and games. More information on sports drinks can be found in the next section.

Players and coaches should use every opportunity possible to get fluids into your system — injuries, substitutions, stoppages in play, half time.

Post Training/Games

After training and games it is important to start refueling the body as soon as possible. Fluids lost through sweating must be replaced. Monitoring of hydration is important to refueling. For each kg of weight lost due to sweating, replace with 1.5 litres of fluids. Sports drinks containing 6 — 8% carbohydrate, some electrolytes and a source of protein are important in the initial stages of refueling.

Keep some fruit, such as a banana or some dried fruits along with water or a sports drink in your gear bag to ensure that you can begin refueling as soon as possible.

Your post training/game meal should mostly contain a source of carbohydrate, such as pasta or rice, to replace lost carbohydrate stores, and some protein such as chicken or lean meat as a source of protein.

Maintain a high carbohydrate intake in the days after a high intensity training session or game to ensure that carbohydrate stores are maintained in preparation for the next session/game.

Nutrition for the Immune System

Introduction

The immune system consists of a vast number of cells, tissues and messengers – for example, cytokines – that play a key role in protecting the body against infection and in healing after injury. In football and hurling terms its your half back and full back lines!

The diets of most athletes have sufficient energy, macro- and micro-nutrients to maintain a healthy immune function and for most players resistance to illness and infection is unlikely to be compromised.

However a combination of poor eating habits, busy work or studying schedules and family schedules alongside heavy training at some stages of the season can exert negative effects on the immune function. The stress to your system of training is influenced by the intensity and duration of exercise, the fitness level of the athlete and the balance between training and recovery practices.

Many athletes falsely assume that high levels of nutrients and nutritional supplements automatically have a beneficial effect on immune function and health. However this is not the case as evidence has shown that the immune response can be impaired by both inadequate and excessive intakes of nutrients.

What are the key “nutrient players” needed to maintain a healthy immune system?

Carbohydrates

Carbohydrate is a critical fuel source for supplying energy/fuel to both muscle and immune cells. Undertaking large volumes of training with inadequate intakes of carbohydrate rich foods can compromise the immune function. Thus particular attention

should be placed on the daily carbohydrate intakes during training and competition. Foods high in carbohydrate include:

- Breads / Baps / Rolls
- Breakfast cereals and porridge
- Potatoes / Pasta / Rice
- Scones / Crackers / Fruit cake
- All fruit
- Carrots / Parsnips / Peas / Sweetcorn
- Yoghurt / Yoghurt drinks / low fat milk

Carbohydrate replacement during training is important and this can be taken in the form of sports drinks or gels. Also the immune system can experience transient suppression in the few hours after intense or prolonged exercise. **THEREFORE RECOVERY WITH FOOD AND DRINKS DIRECTLY AFTER TRAINING AND MATCHES IS CRUCIAL.** Eating foods containing both carbohydrate and protein is important during this time. Examples include:

- Banana + low fat fruit yoghurt
- Flavoured milk + apple + muesli bar
- Breakfast cereal + low fat milk + dried fruit
- Sandwich / Roll / Wrap filled with chicken / Ham / egg / tuna
- Carton of milk and sandwich
- Breakfast cereal and milk
- Baked beans and toast

Protein

Inadequate intake of protein can impair immune function leading to an increased incidence of infection. However prolonged or extreme deficiencies in protein are unlikely in athletes undertaking high level training or competition schedules. Even heavily trained vegetarian athletes with low protein intakes appear to have normal immune function.

Good protein sources (also low in fat) include:

Animal: Lean meat, Chicken, Turkey, Fish, Eggs, Low fat milk, Low fat cheese

Vegetable: Pulses (Peas / Beans / Lentils), Nuts, Seeds, Soya products

Fat:

There is very little information on the importance of fat in maintaining immune function among athletes. However low intakes of fat may compromise overall energy stores.

Micronutrients

An adequate intake of minerals iron and zinc and vitamins A, E, B6 and B12 are important in keeping our immune system healthy. Our diets are generally sufficient in vitamins and minerals to maintain immune function and deficiencies are rare among athletes.

Free radicals which are produced naturally during exercise can cause lead to reduced immune function. Antioxidant vitamins C, E and beta carotene help to minimise the damage caused by free radicals. It has been suggested that supplementation with these vitamins could be beneficial. However, megadoses of vitamins may have deleterious consequences for immune function and in some circumstances cause toxic effects.

Based on present evidence, dietary sources of anti-oxidants are preferable to single and even combined anti-oxidant supplements because of recent evidence demonstrating potential adverse health outcomes with prolonged use of high dose anti-oxidant supplements. Hence, an athlete should try to ensure adequate vitamin and mineral status with a well balance diet. There is the added benefit of being able to increase your carbohydrate intakes by getting vitamins and minerals from foods and also improving fibre intakes which is important for long term bowel health.

If, for any reason, you would like to take a supplement as a precaution, or you have been recommended to do so from your medical practitioner a multivitamin-mineral supplement with amounts not exceeding two times the recommended daily amount (RDA) is both safe an adequate for optimal sports performance. If you refer to www.eirpharm.ie website you can assesses which supplements are safe for you to take should you be a player that can be drug tested by the Irish Sports Council.

Good dietary sources of Vitamins and Minerals Vitamin / Mineral Dietary sources

Vitamin/Mineral	Dietary Sources
Vitamin A	Meat, oily fish, liver, eggs, milk, spreads
Beta Carotene	Red peppers, green leafy vegetables (especially broccoli and spinach), tomatoes, carrots
Vitamin B6	Meat, wholegrain cereals, nuts, pulses, bananas
Vitamin B12	Meat, fish, eggs, milk and dairy products
Vitamin C	(especially citrus fruits, strawberries, berries, currants) and minimally cooked/raw vegetables
Vitamin E	Vegetable oil, spreads, margarine, meat, fish, eggs
Zinc	Meat, fish, milk & dairy products, eggs, bread & cereal products, pulses, green leafy vegetables
Iron	Red meat, beans, pulses, fortified breakfast cereals, dried fruit, nuts, seeds, green leafy vegetables

Summary:

Poor nutritional practices such as skipping meals, not eating breakfast prior to morning training, not having something to eat directly after training or matches along with the stress of intensive training can have a detrimental effect on the immune system.

Athletes during periods of heavy training or in the final preparations for competition can show signs of immune suppression. This immunosuppression is generally mild and transient in nature and athletes can be reassured that they can generally train hard without having to fear the negative consequences of illness and impaired performance.

However maintaining good health and adequate immune protection is essential, particularly in preparation for and during competition. A well balanced and varied diet meeting your energy demands (the calories which fuel exercise) should provide sufficient macro- and micro-nutrients to maintain a healthy immune function.

Dietitian

Losing Weight for GAA Footballers Excess fat can hinder performance in football, so losing body fat is often high on the wish list of many football players. You may have gained some excess weight following an injury or during the off-season period when your exercise levels dropped. It can be hard to respond to a sudden drop in exercise levels immediately with an equal reduction in food energy intake. In fact, many players are tempted to eat more however, the result is a rapid gain in body fat. Whatever the reason for your weight gain, the key to losing weight is to achieve a long term scenario where energy intake is lower than energy output. It is important not to become obsessed with dieting or embark on faddy weight loss methods.

Guidelines for Losing Weight

Set a Realistic Time-Frame

Organise your program so that fat loss can be achieved in a reasonable time frame and during a period where any side-effects or pressures are unimportant. For example, start at the beginning of pre-season training (or even before) so that it is not an issue during important competitions.

Examine Current Exercise and Activity Patterns

Exercise is the other half of the weight loss equation. The best way to manage your weight permanently is to combine a programme of regular exercise with a balanced, low fat diet.

If training is primarily skill or technique-based, or you live a sedentary lifestyle between training sessions, you may benefit from scheduling in some aerobic exercise activities to help burn the fat. This should always be done in conjunction with your coach. If you live a 'couch potato' lifestyle between training sessions, try increasing the energy cost of day-to-day activities such as walking and cycling to college, work or the shops etc.

Keep a Food Diary for a Week

Many players who feel that they ‘hardly eat anything at all’ will be amazed at their hidden or unintentional eating activities. Simple changes to cut out unnecessary eating or unneeded portions sizes can make a long term difference.

Lose Weight Slowly

If loss of body fat is required, plan for a realistic rate of loss of about 0.5kg-1kg/1-2lb per week. Any more than this and you risk losing muscle and depleting your glycogen reserves (fuel for the working muscle). To lose 0.5kg/1lb per week, you need to create an energy deficit of 3500kcal. So, by eating 500 fewer calories per day, you will lose 0.5kg/1lb per week. Increasing your energy expenditure will increase your weight loss further. It is a good idea to set short term and long term goals.

Reduce your Fat Intake

Remember that fat contains more calories (9kcal/g) than carbohydrate or protein (4kcal/g) so cutting down on high-fat foods quickly reduces your calorie intake. Swap high fat foods for low fat, nutritious alternatives.

How to Reduce your Fat Intake?

- Start your day with fruit, yogurt, wholegrain cereal, porridge or wholemeal toast.
- Include five portions of fruit and vegetables in your daily diet – eat fresh fruit as a snack, pile salad into your sandwich or add a side salad to your main meal.
- Make vegetables and grains the base of your meals – pasta, potatoes, rice, cous cous, bulgar wheat.
- Flavour salads and vegetables with herbs, lemon/lime juice, fruit vinegar
- Add extra vegetables to pasta and curry sauces, stews, soups, bakes, shepherd’s pie and lasagne.
- Make fresh fruit the base for dessert – add yogurt, fromage frais, custard or half fat crème fraiche.
- Minimise added fats and oils in food preparation (e.g. dressings, added butter and margarine, cream, fatty sauces).
- When cooking, opt for lower fat cooking techniques such as baking, steaming, boiling and grilling instead of frying.
- Reduce saturated fats e.g. butter, pastry, biscuits and puddings. Choose lean cuts of meat and substitute skinless chicken, white fish and beans for some of the meat in your diet.

- Avoid foods made with animal fats or hydrogenated vegetable fats as they contain larger amounts of trans fatty acids i.e. margarine, biscuits, cakes and bakery items.

Low Fat Snacks

- Sandwiches/rolls/pitta/bagels (filled with salad, tuna, chicken, turkey, ham, marmite or banana)
- Low fat yogurt and fromage frais
- Fresh fruit (e.g. apples, bananas, pears, peaches, nectarines, grapes)
- Scones, potato cakes, crumpets
- Dried fruit
- Rice cakes/ bread sticks

What about Carbohydrates?

Eat enough carbohydrates because carbohydrates fuel all types of exercise. If you eat too little carbohydrate, you will experience fatigue, lack of energy and your training will suffer. Low carbohydrate diets can result in muscle loss. Sugary foods and drinks may be useful to meet carbohydrate goals in some situations – for example, using a sports drink during exercise. Take advantage of these uses, but otherwise focus on bulkier and more nutrient-dense carbohydrate-rich foods.

Fill up on High-fibre foods

High fibre foods will help to fill you up and feel satisfied for longer, keeping hunger at bay. The following is a list of high fibre foods which you should base your meals and snacks on:

- Wholegrain breakfast cereal
- Porridge
- Wholemeal bread and pasta
- Brown Rice
- Beans and lentils
- Potatoes
- Fresh fruit
- All kinds of vegetables

Eat Little and Often

Aim to eat 5-6 small meals and snacks each day at regular intervals. This will help maintain energy levels, prevent hunger and avoid fat storage. Avoid leaving long gaps between meals as people often over-eat when they are hungry or are 'eating on the run'. A well-chosen snack before training or in the afternoon can take the edge off evening hunger. Take time to slow down and eat, even when you are busy. Your brain and your stomach both need to enjoy the experience of eating.

Alcohol

Cutting down on your alcohol intake can help you lose unwanted body fat. One pint of beer is equivalent to 182 kcal so if you cut out five pints per week, you'll save 3640kcal per month, that's 0.5kg in body weight! Since alcohol is associated with relaxation, it is often also associated with unwise eating. From a sports performance point of view, alcohol can interfere with post-exercise recovery. It acts as a diuretic and may slow down the process of re-hydration after a match. Alcoholic drinks are low in carbohydrate content and will not fuel up your glycogen stores.

Fad Diets

Be wary of diets and supplements that promise weight loss. There are no special pills, potions or products that produce safe and effective weight loss. If something sounds too good to be true, it probably is.

Consult a Dietitian if you are having difficulties with your weight-loss goals or you would like a supervised, individualised program. Expert advice is needed for those who are struggling with an eating disorder or disordered eating behaviour.