INVESTORS IN SPORT

BASIC NUTRITION, HYDRATION AND WEIGHT MANAGEMENT GUIDANCE

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BASIC NUTRITION, HYDRATION AND WEIGHT MANAGEMENT

Introducing coaches to the basic elements of good nutrition and hydration and aims to dispel some common myths. Elements of Nutrition Carbohydrate is our main source of energy and the most important fuel for athlete s.

Carbohydrate can be classified as either 'simple sugars' or starches ('complex carbohydrate'). Simple sugars are rapidly absorbed and give a quick energy boost (followed by a big dip in energy). Starches take much longer to break down and absorb and don't result in a sugar 'rush' followed by an energy crash. Protein is essential to the growth and repair of muscle and other body tissues but is not an important fuel for energy. Athletes in training need more protein than inactive people since training and competition place extra demands on the ability of the body to repair itself.

Fat can be a source of energy when in the form of body fat. It can be burned for energy during long periods of low intensity exercise. Dietary fat is an essential nutritional element and can be classified as 'saturated' and 'unsaturated'. Saturated fat is generally from animals and in large quantities can cause heart disease and needs to be kept to the minimum in the healthy athletes diet. Unsaturated fat, the 'plant oils', is a more 'healthy' fat and is a better way of taking the necessary proportion of fat in the diet. The table below shows the recommended amount of each nutrient in the healthy diet, as well as the energy value per gram and food example sources.

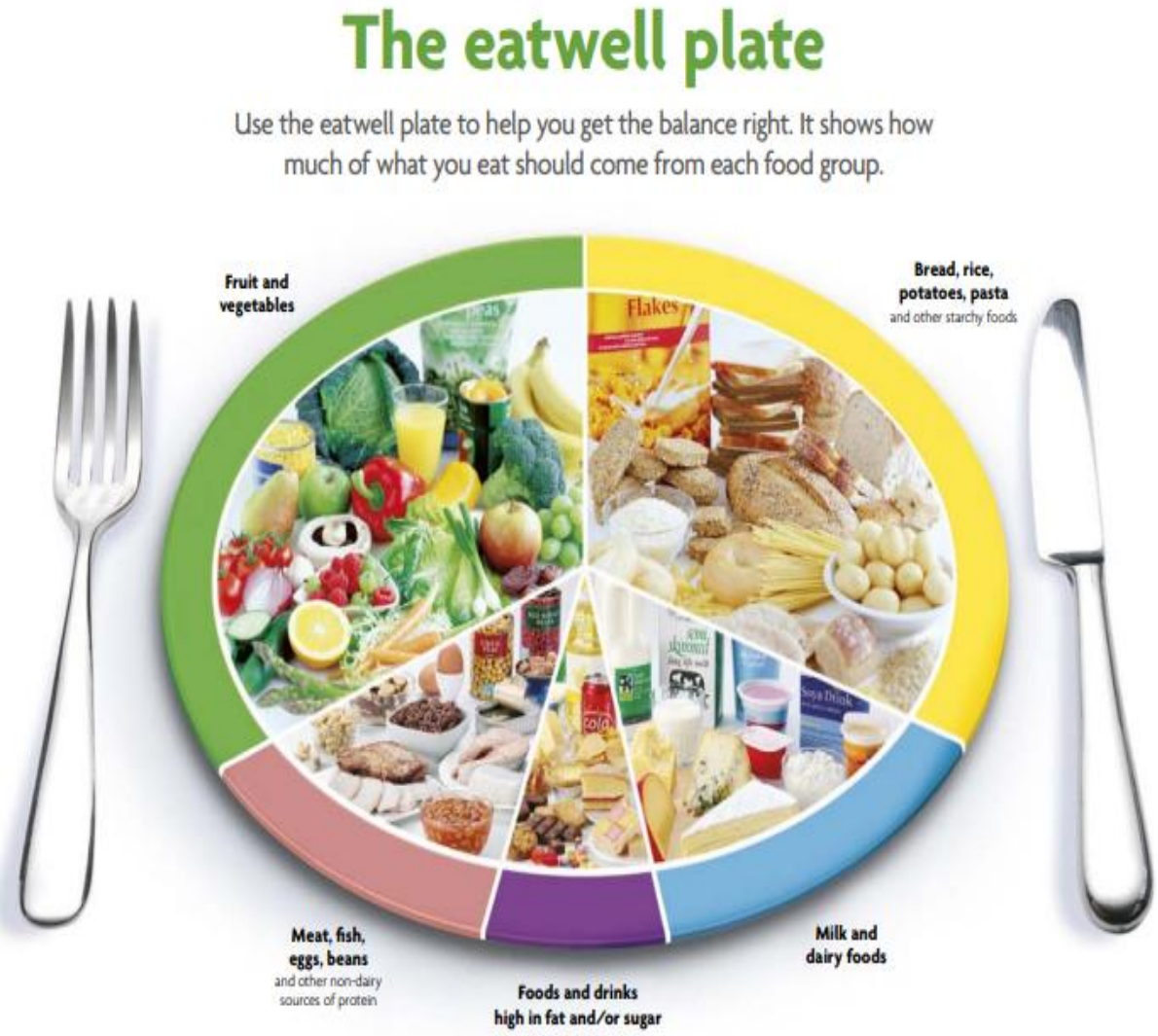
Nutrient	Proportion of diet	Energy Value Per Gram (calories / kilojoules)	Sources
Carbohydrate	60%	4 cal / 17 kj	Simple sugars: honey, jam, sugar, sweet drinks, confectionary. Complex: rice, bread, pasta, cereals, fruit, and vegetables including potatoes.
Protein	20%	4 cal / 17 kj	Meat, fish, poultry, dairy produce, eggs, legumes, nuts.
Fat	20%	9 cal / 38 kj	Saturated: butter, lard, fat on meat. Unsaturated: sunflower oil, olive oil, margarine.

Fibre is a form of carbohydrate that the body is unable to digest and has no real nutritional value; however that does not mean that it has no value. Fibre absorbs water and when present in faeces makes it easier to pass through the digestive system. It also increases bulk in the diet without adding calories. Sources of fibre include whole grains, vegetables, fruits, nuts and legumes. Vitamins are used in the chemical processes which make the human body function. Minerals are vital to healthy body function. Mineral deficiencies can lead to health problems, for example a deficiency of calcium is implicated in osteoporosis where the bones become brittle.

Water is crucial in maintaining a healthy body. The various parts of the human body are largely composed of water and it is essential in transporting the nutrients on which healthy body function depends. Water, vitamins and minerals have no calorific value and are not 'fuel' in the same sense as carbohydrates, fats and proteins; they are vital to the process by which these fuels are burnt for energy and make the motor of the body run.

The ‘Eatwell Plate’

The ‘eatwell plate’ (devised by the Food Agency Standards) can help your athletes to follow a balanced diet. It makes healthy eating easier to understand by showing the types and proportions of foods that are needed for a healthy and well balanced diet.



Counting calories (weight loss and weight gain)

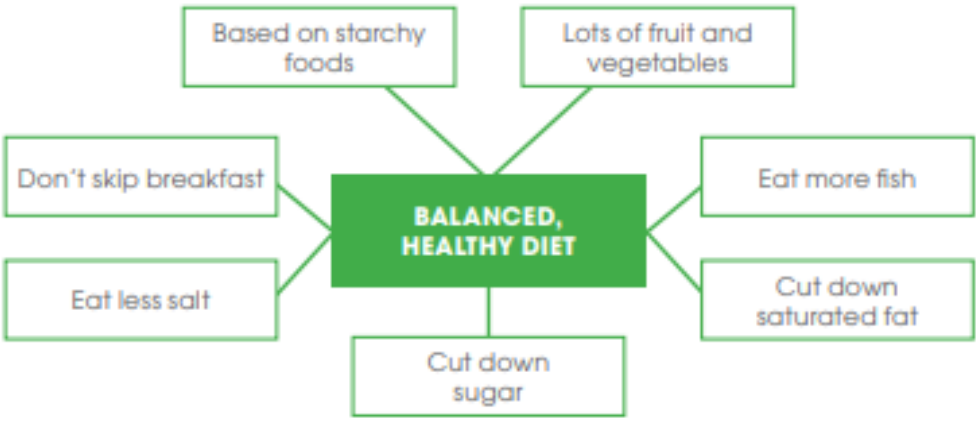
The basic facts are simple:

• We gain weight when we take on board more fuel in the form of calories than we burn through our daily activities.

• We lose weight when we take on board less calories than we need to maintain our bodyweight.

It should be remembered that eating lots of ‘calorie dense’ fatty foods (especially when combined with sugar) means that the target calorie intake will likely be exceeded very quickly; possibly at the expense of the carbohydrate needed to fuel intense activity and the protein needed to repair body tissue.

An increase in regular exercise will help to increase expenditure of calories and the more physically active a person, the more calories they burn. If physical activity is increased and food intake remains the same, the extra energy needed will be provided from stored body fat when low intensity long duration activity is undertaken (eg jogging or brisk walking).



Balanced and healthy diet

Base meals on starchy foods: encourage your athletes to include at least one starchy food with each main meal. Some people think they are fattening but they contain less than half the calories of fat. There needs to be an awareness of what fats are added when cooking and serving these foods because this increases the calorie content. Wholegrain foods are a good option as they contain lots of fibre.

Eat lots of fruit and vegetables: encourage your athletes to eat five portions of a variety of fruit and vegetables per day. These can be fresh, frozen, dried, tinned or juiced.

Eat more fish: encourage your athletes to aim for at least 2 portions per week including one oily fish such as salmon, mackerel, fresh tuna or sardines. Fish is an excellent source of protein and contains many vitamins and minerals.

Cut down on saturated fat: encourage your athletes to eat these foods less often and in smaller amounts. Foods containing high saturated fat include meat pies, sausages, meat with visible white fat, hard cheese, cakes and biscuits, cream, butter and lard. A high amount of fat would be considered as more than 20g per 100g, low fat is 3g or less per 100g. High saturated fat is considered as more than 5g per 100g and low is 1.5g or less per 100g.

Cut down on sugar: encourage your athletes to eat sugar less often and in smaller amounts. Many sugary foods are also high in calories. A high amount of sugar is more than 15g of sugars per 100g, low is 5g or less per 100g. On food labels sugars may be listed as either sucrose, glucose, fructose, maltose, hydrolysed starch and invert sugar, corn syrup or honey. If one of these is near the top of the list it is likely to be high in added sugars.

Eat less salt: encourage your athletes to eat less salt as too much salt can raise blood pressure; around 75% of the salt we eat is already in the food that's bought. A high amount of salt is considered as 1.5g per 100g, low is 0.3g or less. No more than 6g should be eaten per day.

Don't skip breakfast: reinforce the importance of eating breakfast as it provides the energy needed to face the day and contains many vitamins and minerals that are good for health. Some believe that skipping breakfast will help with weight loss but missing meals isn't good for people as they can miss out on essential vitamins and minerals. There is some evidence to suggest that eating breakfast can actually help people to control their weight.

Weight loss and gain

The equation is simple, if your athletes burn more calories than they consume, they will lose weight; if they consume more than they burn, they will gain weight. Managing Weight: extreme dieting hurts performance.

Coaching Assistants should not take responsibility for decisions regarding a athletes weight, however you must be aware of good practice and be prepared to challenge poor practice. Reduction of 'body fat' rather than weight: coaches and athletes need to think of body fat reduction and not simply weight reduction, especially when that weight reduction is through dehydration.

One size does not fit all: a successful weight loss plan is one that is tailored to the individual circumstances of the athlete , taking account of his or her age, physical characteristics, lifestyle and training patterns.

Athletes are individuals, one size does not fit all. Up to 1kg of weight loss per week: sport scientists and dieticians generally agree that weight loss of around 1kg per week is the maximum any athlete should aim for in order to remain healthy and capable of the intense training required by athletes.

Weight loss and the adolescent: in the case of the adolescent athlete , whose body is still maturing, the greatest care needs to be taken to avoid unhealthy weight loss programmes (which can follow a period of eating an unbalanced 'junk food' diet high in sugar and fat). Starvation diets, especially when the adolescent athlete is going through a growth spurt, are unethical as well as potentially damaging to the growing child. They are unacceptable and should form no part of a boxer's preparation.

Sauna suits are of limited use: training in sauna suits has a very limited use for losing up to 1 kg prior to a championship weigh-in for senior athletes only. The weight lost through the use of these suits is fluid that will be replaced when the athlete drinks. Some believe that by wearing sauna suits it is possible to burn more calories and this may be true; however it also leads to earlier fatigue (physically and mentally) therefore reducing the amount and quality of work that is done, and ultimately reducing the number of calories burnt and the ability to recover and train again.

As a general rule regarding weight management for junior athletes, the "normal" training weight should be their competition weight.

Hydration

Monitoring water intake is crucial; becoming seriously dehydrated is dangerous and even mild dehydration impairs skilled performance. Coaches need to monitor water intake before, during and after training especially where sparring is concerned. Sparring after already losing a lot of water in sweating and having failed to drink sufficient fluid will result in poor learning, impaired performance and the risk of injury.

Performance declines with dehydration: boxers who rely on fast reactions and highly skilled movements, need to be aware that a loss of only 2% of bodyweight in sweating leads to a reduction of up to 20% in the ability to track visually an object (such as a punch), to concentrate, make decisions and execute skilled movement, especially learning new skills. As a guide, 2% of bodyweight translates as 1-2 kilos.

Before and after weighing in for events:

It is crucial that you monitor the amount of water weight which the boxer loses in a typical training session by 'before and after' weighing. Weighing the boxer after a training session is a very poor indicator of normal weight since so much water has been lost.

Quick hydration tips

• After exercise aim to drink 1.2 to 1.5 litres of fluid for each kilogram of bodyweight lost.

• Start each training session well hydrated; 0.6 litre (20 fluid ounces) 1 hour before the training session.

• Limit fluid losses to less than 1% to 2% of body weight.

Frequently asked questions

Question	Answer
Where does body fat come from?	Fat is produced by the body when an excess intake of calories occurs. When the diet provides the body with more calories than it needs for maintenance and its current level of physical activity, this excess energy is stored as body fat.
Can I target fat removal from a specific part of the body?	No. If you exercise a specific part of the body, the muscle under the fat will become firmer and make the overall appearance of that region simply look better. Long duration low intensity 'fat-burning' exercise will reduce overall body fat but not from any specific areas of the body, this is dependent on where the individual stores excess fat. There is a myth that lots of sit-ups will target weight loss from the abdominals.
Does muscle turn into fat after we stop training hard?	No; they are completely different substances and one cannot 'turn into' the other. When boxers stop training and still eat the way they did to fuel their training, they are taking in more calories than they are burning off and a gain in body fat is inevitable.
Can I sweat off excess weight in a steam room, sauna or sauna suit?	The weight lost through excess sweating in the sauna or steam room is not fat but water. This weight returns as soon as the boxer drinks. Consequently if two and half pounds are lost in a session in the sauna, it will be replaced with approximately the next two pints of water drunk (1 pint of water weighs a pound and a quarter).

REMEMBER:

• A healthy, balanced diet that contains the appropriate proportions of each element of nutrition is an important part of boxer preparation.

• Weight-making should follow sensible limits of up to 1 kg per week.

• Starvation diets are unethical and potentially harmful to the boxer, especially growing, adolescent boxers; moreover they could be considered to be abusive.

• Sweat suits are of limited use and any weight loss is in the form of fluid that needs to be replaced to prevent dehydration.

• Adequate hydration is vital for effective performance and to prevent dehydration which is very dangerous to the boxer.

• Before and after weigh-ins should be conducted and fluid that is lost during the session should be replaced.

ACTION:

Ensure you stick to the premise that normal training weight should be the boxing weight for adolescents; check your practice and help your boxers and their families to adopt good eating habits all the year round.

This is a basic Insite into an athlete's healthy eating habits and essential requirements for good hydration.

If you would like to further increase your knowledge scan the below QR code to access the WKO online courses available, some of which are completely FREE!.