

the place to discover dance



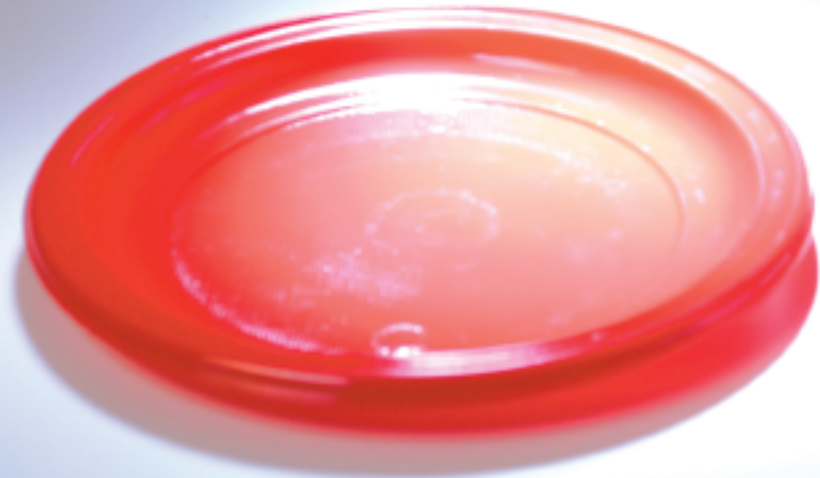
Yakult

the place to discover dance

www.theplace.org.uk

This booklet has been produced by The Place in partnership with Yakult, to give dancers participating in the Essential Alston workshops extra information and support to help them build all the elements of a healthy diet into their active lifestyle. Yakult's expert team of nutritionists along with dance specialists at The Place have created this booklet to be kept and used as a quick reference guide and we hope that dance students will find it a useful and informative resource.

Cover photography by Benedict Johnson. Additional photography by Mattias Ek, Hugo Glendinning, Benedict Johnson, Chris Nash.



**The Essential Elements of Dance -
Nutrition and Hydration Advice for Dancers**

The four basic elements of Earth, Air, Fire and Water have been recognised as representing the cornerstones of life since the time of Aristotle.

- **Earth** represents the food we eat - the nourishment we get from the land in the form of meat and dairy products, fruit and vegetables, beans, pulses, salads and all the essential, natural foods that together make up a healthy diet.
- **Fire** is the energy that eating good food creates in our bodies - the sense of prana or life force that fills our bodies and allows us to be healthy and active.
- **Air** is our breath, that fills our lungs and keeps us alive and healthy. The more exercise we do, the more we rely on a strong, healthy respiratory system.
- **Water** makes up over 70% of our bodies, and we will see that drinking lots of fresh water every day to stay properly hydrated is essential for physical health as well as mental wellbeing.

As dancers, whose livelihood depends on being fit and healthy, eating a varied and balanced diet is one of the most important lifestyle choices we need to make. This booklet will explain what you need to eat and why, as well as showing how easy and delicious it can be! Two professional dancers from the Richard Alston Dance Company, Maria Nikoloulea and Jonathan Goddard, will help talk us through it, by giving real examples from their own diets and lifestyles. As we will see from the various points Jonathan and Maria make, we don't all need to eat in exactly the same way: different people can work out their own way to develop a healthy diet that suits them.

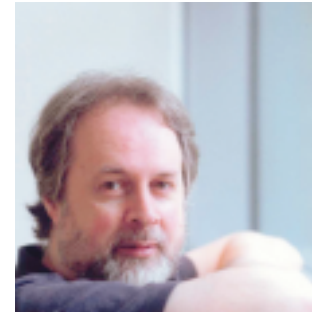
Here, Jonathan sums up what it's all about. A dancer's livelihood is dependent on a high level of health and fitness, and a balanced diet is a key element to this lifestyle.



Jonathan Goddard:
 "As dancers we need to be healthy and strong - when a choreographer asks you to do something, you have to be able to do it. It's very important to me to keep myself in tip-top condition because this is my job."



Maria Nikoloulea:
 "Food groups can be good or bad if eaten to excess - the key is to get the balance right, and everything in moderation. Milk and dairy are good for your bones as they are rich in calcium so I want to have that; fruit and veg give you all the vitamins then protein strengthens your muscles and carbohydrate gives you energy. And of course, a bit of chocolate gets you through the day!"



Richard Alston, director of the Richard Alston Dance Company:
 "When I'm selecting dancers for my company the most important thing is that they are individuals, I don't want them all to look the same. Also, and equally importantly, I need fit, healthy dancers who understand how to look after themselves so they can build the stamina required to cope with the taxing demands of dancing fast for a full evening."

Basic food requirements

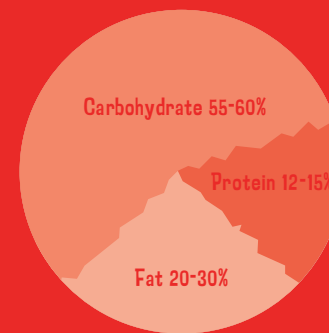
In the last few years, professional dancers are being placed under ever greater technical demands, along with a more physically strenuous training and performance regime. Nowadays dancers need to be athletic, quick, strong and fit, with traditional gender roles being blurred as men and women are often expected to do the same movements and have the same range of fitness, strength and agility.

As dancers demand more from their bodies, they need to be especially careful about how they nourish themselves. Key physical requirements dancers need to maintain are high energy levels, strong bones, flexible joints, toned and powerful muscles, and an efficient heart and lungs. A dancer's diet should contribute towards every one of these requirements.

The main food groups are carbohydrates, proteins and fats. Together with fibre, vitamins and minerals they supply all the essentials to meet our bodies' needs. We will look at each one in detail, and see examples of how Jonathan and Maria include these foods as part of their daily diets.

Nutrient breakdown

Maria (see opposite) sums up very well the main food groups she eats for her healthy dancer's lifestyle. This chart gives an indication of what proportion of a healthy diet should come from the different food groups. Proteins are needed to build strong muscles and organs, while energy mainly comes from both fats and carbohydrates. As a dancer, most of your energy will come from the complex carbs we will look at later. A little bit of chocolate every so often isn't a bad thing either, as Maria says, and it will provide a quick burst of energy. However, she prefers to get most of her energy from nutritious food, rather than going for a quick caffeine or sugar hit.



All amounts will vary depending on the intensity of each individual dancer's schedule.

A professional female dancer needs around 2,000 calories a day, and a professional male dancer around 2,650 - and it can be more of course if physical demands are high. People who do not dance full-time will need to adapt this to their own lifestyle.

earth & fire

This section looks at food, represented by Earth, and how it is converted by our bodies into energy, represented by Fire.



Carbohydrates

Carbohydrate is the best source of fuel for exercise and supplies most of our body's energy. It is stored in the muscles and liver as glycogen. During exercise glycogen is converted into water and glucose (which provides energy). The longer and harder the exercise, the greater the demand will be on carbohydrate stores, and by the end of a class, glycogen stores will be low, or even empty, and fatigue will set in.

A dancer's diet should be derived mostly from slow energy releasing 'complex carbohydrates'. These include wholemeal and wholegrain breads, brown rice, wholemeal pasta, wholegrain breakfast cereals, starchy vegetables (for example potatoes), beans, or pulses.

Jonathan makes an important point here - as he is a dancer and does more daily exercise than average, it's OK for him to eat extra carbohydrates as he needs that energy. He also stresses that he is not underweight, which is crucial, as being too thin or too light would be just as unhealthy as being overweight. He has struck the right balance for the amount of exercise he does.



Top tips to boost dietary carbohydrate:

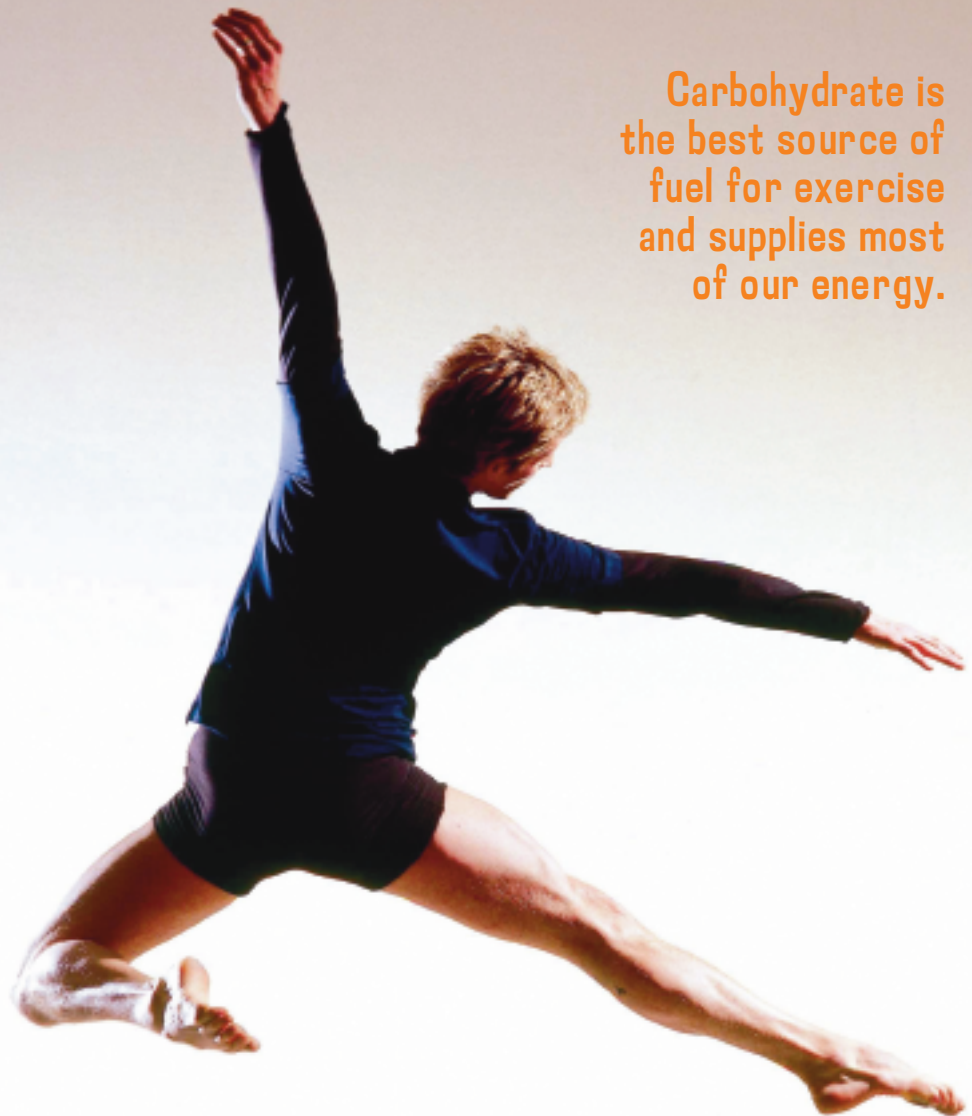
- More than half your plate should be carbohydrate at every mealtime.
- Experiment with different pastas and noodles, adding a variety of low fat sauces (especially vegetable based).
- Eat plenty of fresh fruit, or tinned fruit in natural juice, and add dried fruit to breakfast cereals.
- Eat high fibre, low sugar breakfast cereals as a nutritious snack at any time of the day.
- Try wholemeal scones, bread, muffins, or crumpets instead of cakes and biscuits.



Maria: "I have a big breakfast in the morning including croissants, eggs, toast or cereal, then sandwiches, potatoes or rice in the afternoon - lots of carbohydrates, because that gives me energy."

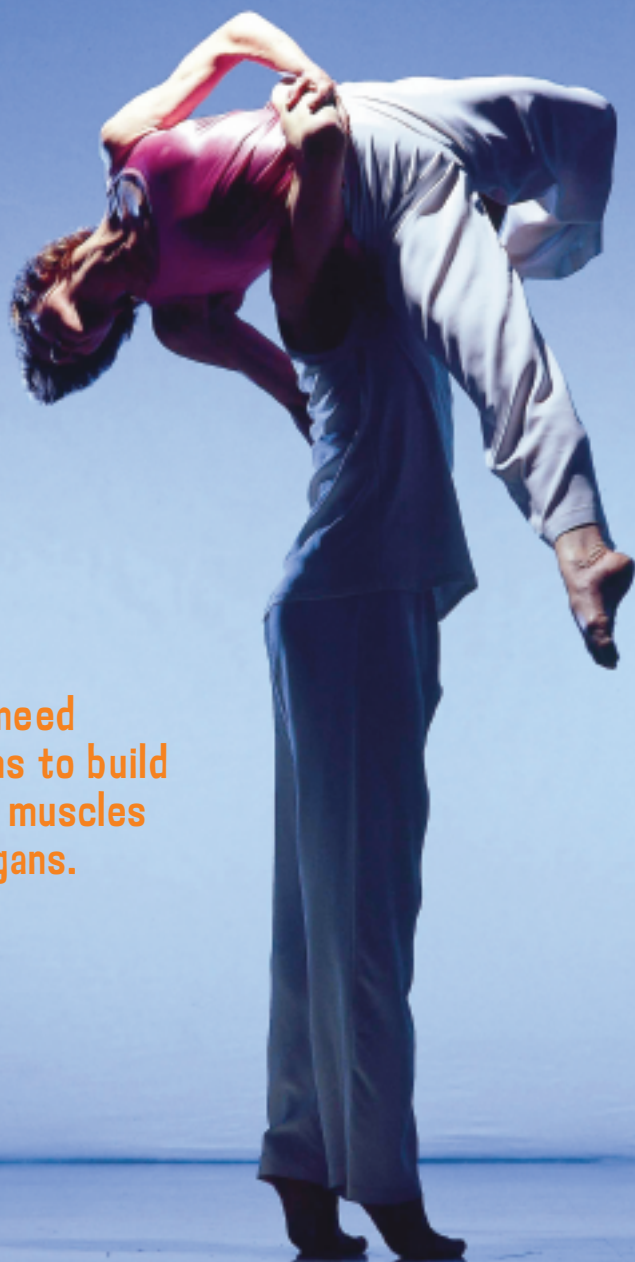


Jonathan: "I'm vegetarian, and I sometimes think I actually eat too much carbohydrate as I have a lot of bread and pasta. But I'm fit and I'm not over or underweight so I don't think it's a problem."



Carbohydrate is the best source of fuel for exercise and supplies most of our energy.

We all need proteins to build strong muscles and organs.



Maria: "In the evening, I prefer having grilled fish or meat - steak and salmon are what I often eat - that's my protein and it makes my muscles stronger."

Good sources of protein include meat, poultry, fish, beans, lentils, nuts, eggs, milk and cheese.



Jonathan: "I have lots of snacky things, but I'm quite lucky that I like carrots and celery, so I always have carrots, celery, apples and bananas. I do make a real effort to eat healthily."

Protein

We all need proteins to build strong muscles and organs, and our bodies use protein to grow and repair tissues, transport nutrients, and to produce enzymes and hormones. Strong muscles are of course vitally important to dancers, and they need to incorporate proteins into their daily diet.

Jonathan is vegetarian, and thinks he might not have as much protein as he needs because he doesn't eat meat. However, he knows where to get proteins from, and he does eat fish. "I might have smoked salmon in pasta with some vegetables, which makes a very balanced meal."

Fats

Fats provide more than twice the amount of energy as carbohydrate, but are stored in the body as fatty tissue and are not a readily available energy source. Dancers should be wary of eating too many high fat foods, as these will not give them the energy they need. However a little fat, especially essential fatty acids, are needed to carry vitamins around the body, protect essential organs, and lubricate joints. Fats are also essential for the brain and nervous tissue.

Essential fatty acids to include in the diet can be found in oily fish like mackerel, sardines, herring and salmon, as well as in nuts and seeds. A deficiency in these essential fats can lead to health problems including dull skin, poor circulation, and hormone imbalances.

Basic fats, which should be kept to a minimum, include foods like oil, margarine, butter or spreads. Other foods contain 'invisible' fat, such as eggs, some cheeses, fatty meats, salad dressing, mayonnaise, cream and full-fat- milk.

Jonathan's typical packed lunch of a cheese and mayonnaise sandwich with cucumber and salad does cover all the food groups he needs. He eats cheese, which may be high in fat, but balances it out with carbohydrates and fresh vegetables.

Fibre

This 'bulk' foodstuff will help to keep things moving through the digestive system. Soluble fibre is found in oats and pulses, as well as all the fruits and vegetables we've been talking about. Insoluble fibre, which helps alleviate constipation and bowel upsets, is also very important and is found in bran and other wholegrain cereals.

Minerals

Minerals provide the frame of the human body and are needed in small amounts. Amongst their many roles minerals are needed to maintain strong bones and transport oxygen. Three minerals which are commonly deficient in the diet and important to dancers are:

- **Calcium** - Essential for strong bones. Female dancers in particular need to include sufficient levels to maintain healthy bones and teeth. Calcium from dairy products is easily absorbed by the intestine, making these excellent sources of calcium.
- **Iron** - Helps to prevent fatigue. Good sources of iron include liver, lean red meat, tuna and dark green vegetables.
- **Zinc** - Important in the immune system and for its role with enzyme activity (during the digestive process). Sources include meat, seafood, pulses and wholegrains.

Vitamins

Vitamins are required to maintain health and help prevent disease. We can get all the vitamins and minerals we need from the food we eat, and it is far more beneficial to absorb them in this way. Foods which are generally particularly good for providing a range of vitamins and minerals are fresh fruit and vegetables (especially when eaten raw or lightly cooked), wholegrains, nuts, seeds, dairy products, seafoods and organ meats (for example, liver or kidneys).

- **Vitamin A** comes from milk and dairy foods, and is needed for growth, development and eyesight.
- **'B'** vitamins come from starchy carbohydrates, meat and dairy products and help the body release and use energy
- **Vitamin C** comes from fresh fruit and vegetables, and is needed for healthy skin and body tissue. It also helps the body absorb iron.
- **Vitamin D** comes from oily fish, butter and margarine and is needed for healthy bones.

Digestive system

A healthy digestive system is needed to maximise goodness from food we consume. One of the key elements is maintaining a good balance of beneficial bacteria in the intestines. These are naturally found within the digestive system. Here, over one kilogram of friendly bacteria play an essential part in digesting our food. Drinking a probiotic such as Yakult every day is a convenient way to top up these beneficial bacteria. They support the work of other beneficial bacteria, and keep harmful micro-organisms in check.



Energy levels

We have already seen how energy stores will be depleted after exercise, and you should try to top them up with carbohydrate before the next class. This is particularly important for dancers, as exercising on low fuel reserves means you will not be able to achieve maximum performance. If a low carbohydrate diet is eaten between successive exercise sessions, glycogen stores will become progressively low and a dancer will become fatigued more quickly. Eating a diet high in carbohydrate will ensure adequate refuelling, allowing training to be continued effectively and consistently.

Practical advice for refuelling:

- Try to eat every four hours, and if necessary snack every two hours.
- Eat two to four hours before exercising. If exercising all day take care not to overeat at lunch-time.
- Aim to eat within one or two hours after exercising, while your metabolism is at its highest, to help replenish your glycogen stores.
- Choose foods that will be quickly absorbed and digested. Be aware that carbohydrate-rich foods release glucose at varying rates.
- Plan what you will eat in advance. You will be less likely to make sensible dietary choices if you are too hungry. Starvation will also lead to tiredness and inability to perform.

It's OK to eat small quantities of high-sugar foods when you need a quick energy boost. Both Jonathan and Maria eat sweets and drink fizzy drinks during performances as this is when their physical activity and mental concentration is at its peak, but they don't have very much, and would not have these things at any other time.



Jonathan: "Injuries such as ligament problems and strains are normally caused when you're tired, so it's important to keep my energy up during the day. I can eat between classes but I don't like being too full and feeling food swashing around in my tummy! So I might have half a sandwich in our short breaks, then have a proper lunch of more sandwiches and fruit."



Maria: "During the day, if I don't have time for a proper meal I'll snack on sandwiches or cereal bars to keep my carbs topped up."



Jonathan: "I'm quite good at not eating crisps and chocolate - that type of food is very much a quick fix, it doesn't satisfy me long-term. The only fast food I might eat is the odd portion of fish and chips. I cook my own meals at home as much as I can."

I cook things that I really like. I tend to eat a high volume of low-fat food, so I can eat a lot - I steer well clear of anything that comes in a packet!"



Maria: "I don't like takeaway burgers and chips, that sort of thing. If it's a special occasion I might have a pizza every so often, but it's quite rare. I'd rather cook for myself."

I do like my casseroles so I have chicken with potatoes or rice and steaks, with salad. I try to eat five pieces of fruit and vegetables every day as I know how important it is. I base my main meal around vegetables and meat - I think of it as eating a bit of everything."

Healthy menu choices

Breakfast An important source of energy for morning classes. Try a selection of eggs or beans on toast, porridge, wholegrain cereals such as shredded wheat or muesli with skimmed milk, wholemeal toast with minimal spread, yoghurt, fruit, unsweetened juice, and tea or coffee. Tea and coffee should be limited to two cups each day.

Lunch It can be difficult for dancers to find time to eat a proper lunch, as it needs to fit in with classes and rehearsals. Try light foods including baked potatoes (good filling choices might be beans, cottage cheese, or tuna), wholemeal bread sandwich (good fillings would be tuna, cottage cheese, cheese, ham, egg, chicken), mixed salad, soup and bread, apple and cheese, yoghurt, milk or diluted fruit squash.

Evening meal Make this a proper meal to replenish your energy stores. Ignore the myth that eating later in evening makes food more fattening. Options include lean meat, fish, eggs, cheese, steamed or boiled vegetables, salad, baked potato, wholemeal bread, pasta or rice, fruit or fruit salad, yoghurt and diluted fruit squash.

Snacks Try to eat low fat, high energy foods during the day, like fruit squash, bananas, dried fruit, savoury crackers or crispbreads, jacket potato with low fat filling, cereal, salad sandwich, fruit, low fat fruit yoghurt, vegetable soup with wholemeal roll, jam sandwich and low fat cereal bars.

Wholesome diet

Aim for a diet that is wholesome and healthy, to maximise nutritional value. Things to avoid include highly processed foods, fatty meat such as sausages or chicken skin, and foods with numerous additives or which are high in sugar or salt. High fat or highly processed sauces and dressings should also be avoided, as well as meat and fish served in coating or batter, and fried foods.



air

Respiration, or the breathing of fresh air, is what allows our bodies to undergo the process of turning food into energy, or earth into fire, enabling us to live, to move, to dance. We will not be looking at respiration in detail here, but it is worth emphasising that smoking is one of the worst things anyone can do for their lungs and breathing. It is particularly important for dancers not to smoke as it can so badly affect their health and livelihood.

This image features dancers from H2dance company - www.h2dance.com

water

Water is the largest component of the human body. It counts for between 45 and 70% of total body weight, and muscle is approximately 70-75% water.



Jonathan: "I drink water all the time, it seems to help when I'm tired or if I'm craving unhealthy things. I drink about three litres a day. Dance and alcohol doesn't really go for me, but I know it does for some dancers. I sometimes have a gin and tonic on an empty stomach after a performance which is bad, and class with a hangover is the worst thing!"

Basic fluid requirements

Water is necessary for the metabolic process (converting food into energy) and it transports glucose to the muscles through the bloodstream. It also gets rid of the body's waste and toxins and is an essential means of transporting nutrients around the body.

Fluid loss during exercise

During exercise the rate of our metabolic process is increased, giving off heat and leading to a rise in body temperature. Whilst changes in our skin temperature can be tolerated, our internal systems need to be kept at a consistent temperature. The body therefore removes this surplus heat through increasing blood flow to the skin. This blood contains water which is released through the pores as we sweat. It is the evaporation of sweat from the surface of the skin that cools the body down. High rates of sweat loss are therefore necessary during prolonged, high-intensity exercise when heat production is high. One of the first signs of dehydration can be bad breath, so drink plenty of water before this begins to develop!

Consequences of dehydration

Water loss through sweating causes dehydration if the fluid is not replaced. Dehydration reduces blood volume (leading to impaired performance) and decreases blood flow to the skin, as the exercising muscles take priority. This in turn causes a decreased rate of heat loss, a rising body temperature, and can result in sensations of physical and mental impairment such as overheating or dizziness. Extreme dehydration is a serious health risk, and even a small degree of dehydration over a long period can undermine your health and make you more susceptible to injury.

During and after exercise it is important to drink fluids as quickly as possible. However, factors limiting this will include how quickly fluid leaves the stomach, and how quickly it is absorbed in the intestine.



Practical advice to keep hydrated

- Make sure that you start your classes properly hydrated.
- Keep your fluid intake up throughout the day (not just before, during and after classes) by carrying a water bottle with you at all times.
- Take water into classes: for classes of more than 30 minutes you will need to drink little and often during the session to stay hydrated.
- Train your body to take on board water: start slowly and gradually build up the amount.
- Don't let yourself get to the stage of feeling thirsty - you will already be dehydrated by this time!



Maria: "I try to avoid caffeine as it gives me the shakes, as well as being a diuretic and leading to dehydration. Some dancers drink a lot of cola and other caffeine-based fizzy drinks, but they give me the shakes. I will have coffee in the morning, but I'm not a big fan, and I won't drink coffee or tea during the day."

A final word

A healthy lifestyle for a dancer is all about balance, and as Jonathan and Maria have shown, different dancers achieve this balance in different ways. It is important to enjoy food and to recognise how important it is to allow space for everything, and everything in moderation. Yakult and Essential Alston hope that this leaflet has given you food for mind as well as for body, as you embark on your life as a dancer, and that it will be a useful resource for you in the future.



Don't let yourself get to the stage of feeling thirsty - you will already be dehydrated by this time!