

## PLANNING MEALS

Just as it is important to eat a well-balanced diet on a daily basis, it is equally important to eat the right things before, during, and after competition and training.

The goal is to maximise your energy stores so you can meet the energy demands throughout the playing duration and to aid muscle growth and repair afterwards.

To achieve this, it is important to understand which foods to eat and when to eat them. However, it is important to eat foods that are familiar to you and are known to settle hunger.

### Pre-Match Nutrition

During the week prior to a competition a player must alter their general food intake and training plan to ensure they are optimally prepared for the competition. In order to achieve this, the athlete must attain two major goals:

1. The athlete should gradually build up muscle glycogen stores.
2. The athlete should become well hydrated.

During the days prior to competition, players should replenish their carbohydrate stores (muscle and liver glycogen) so that they begin their competition with a full fuel supply. This is necessary because the majority of energy supply comes from the anaerobic systems, for which glycogen is the main fuel source.

It is important to eat plenty of complex carbohydrate foods, especially those with a low glycemic index (GI) to help boost glycogen stores. Moreover, a progressive increase over several days in carbohydrate intake and an associated decrease in training intensity and duration (known as taper training) before the start of an event can better optimise the filling of glycogen stores.

Up to four days before competition, as well as maintaining a high carbohydrate and fluid intake, it is important to have a little extra protein, up to 1.5-2 grams/kilogram, to ensure all tissues are fully repaired, and to support the production of creatine.

When to eat in the 24 hours prior to a match can be tricky to determine. Unlike other sports, in tennis, there is often no way of knowing exactly when you will be competing, unless you are the first match of the day, and no way of knowing how long the match is going to last.

Hopefully, by the morning of your competition, the previous day's eating will already have filled a player's glycogen stores. On the day of competition, a player should eat at least 90 minutes before a match, although ideally the pre-match meal should be consumed three hours before the match.

This means if you have an early morning match at 9:00 am, you need to finish breakfast at the latest by 7:30 am. If you are not used to getting up this early to eat it is recommended you spend the weeks leading up to the competition getting into the routine.

Sample meals would include for a breakfast: cereal and yogurt with toast and nut butter and fruit and water; for lunch: sandwich and pretzels with fruit and water.

Your pre-competition meal should be high in carbohydrate, low in fat, low in protein, low in fibre (i.e. not too bulky and filling), enjoyable and familiar. If you really do not feel like eating, try to have a liquid meal such as a carbohydrate drink or dairy and fresh fruit.

In addition, a pre-match snack of fast-absorbing carbohydrate just before you start playing can help to delay fatigue and enhance endurance. This snack should be consumed the hour before play.

If you start exercising within about five minutes, an increase in insulin will be prevented and your blood-sugar levels will remain slightly raised for longer. But, do not eat a concentrated refined sugar source right before match time such as a soda or smoothie or candy.

By late-morning / early afternoon the energy provided from breakfast will have been used. Therefore, it is important to have something to eat every two to three hours, but still remembering to leave at least 90 minutes before your match.

### **In-Match Nutrition**

Change of ends provides the ideal opportunity to take extra carbohydrate and water during the match, and helps to prevent, or at least delay fatigue, dehydration and maintain exercise intensity, particularly in the latter stages of a match.

Recommended food & drinks on court:

1. Cold fluids on each change over to replace lost fluids and cool the body temperature.
2. Sports drinks are helpful to replace lost minerals (eg: salt) and provide energy.
3. Moderate to high GI foods, such as high carbohydrate energy bars or non-caffeinated energy gels that are low in fat and protein digest rapidly and are a good source of quick energy.

Discouraged food & drinks on court:

1. Avoid cola drinks or other soft drinks: they usually contain a large amount of sugar and the caffeine may act as a diuretic, which could increase your fluid output and may lead to more dehydration.
2. Avoid bananas: they are slower to digest (low GI rating) and reduce your body's ability to absorb the essential fluids you are drinking to avoid dehydration.
3. Avoid fatty snacks such as a chocolate candy-bar: they are slow to digest and will sit in your stomach causing a feeling of fullness and reducing fluid absorption by the body.

## Post-Match Nutrition

After your match (or practice), your post-match nutrition becomes crucial for recovering from your energy depletion. The first goal is to rehydrate and resupply sodium.

Then glycogen stores can take 24-48 hours to refill; therefore, it is important to start replenishing carbohydrates immediately following exercise to accelerate the recovery process.

However, there may be very little appetite or opportunity to eat following a match. Drinking a liquid carbohydrate may be easier to consume and allows for glycogen replacement, restores lost electrolytes, and also promotes hydration.

In addition, it is equally important to drink water since it takes three grams of water to store one gram of glycogen. Post-match protein intake in an easy to digest form, like a milk product or smoothie may be an ideal way to help your muscles to be able to immediately start to rebuild.

Within the first 30 minutes after your match: eat a large snack or medium portion dinner with two parts carbohydrates, one part protein, and sports drink or natural juices because:

- This is when your muscles are most effective at storing glycogen
- Your body is still using energy and burning calories
- Your cells are rehydrating
- A carbohydrate/protein energy bar or pasta/rice, lean meat, and a vegetable would be appropriate at this time.

Within 2-3 hours after your match: eat a well-balanced meal including a variety of carbohydrate sources, a protein portion, and plenty of fluids because:

- Your body is still low on fluids, minerals, and energy
- What you eat at this time will restore most of the energy used during play
- Your muscles begin repairing any damage that may have occurred in the match
- A pasta/rice based meal with lean meat and vegetables with several glasses of fluid make an ideal post-match meal.

Within 24 hours after your match: continue to drink plenty of fluids and give your body a rest (if possible) because:

- It takes a while to fully recover from your match mentally and physically
- It often takes a while to fully replace the fluid you lost during a match.
- Your muscles need rest to store glycogen and repair themselves

If a player has another match scheduled to begin shortly after the completion of play (i.e. within 1-2 hours), rehydration and carbohydrate intake should begin immediately.

High-carbohydrate sport drinks, sport bars, and other high-carbohydrate foods with a high GI will facilitate the rapid restoration of muscle glycogen more so than other foods.

Finally, if sweat losses from the previous match were extensive, and especially if the player is prone to, or just experienced cramps, additional salt may be added to the diet.