

NUTRITION FOR BASKETBALL

A basketball game is played over 10 or 12-minute quarters, with a break of 10-15 minutes at half time. Since the timing clock stops when the ball is out of play, the actual time elapsed for each game is considerably more. Each team will usually consist of 10-12 players, with five players on court at any one time. Players can be rotated on and off the bench at any time during the game during a stoppage in play.

Basketball is a fast-paced, highly skill dependent game characterised by short duration, high intensity efforts, with variable periods of recovery. This places considerable demands on both the aerobic and anaerobic energy systems. Though players will rarely reach maximal running speeds when playing, they will expend a considerable amount of energy overcoming movement momentum to change direction or to accelerate/decelerate. Though technically a non-contact sport, there is usually a high level of physical interaction between players on opposing teams.

Training

Both the Basketball Australia AIS women's and men's programs train six days a week, 1-3 times a day. Training includes team practice, "individuals", where players will usually work on specific skill development and technical aspects of their game, as well as strength and conditioning work in the gym. Team practices usually last between 1-2 hours and like games, involve a lot of high intensity efforts interspersed with variable amounts of recovery.

Competition

Both the men's and women's program go on 1-2 overseas trips a year to play against under age national teams or semi-professional club sides. The AIS also hosts overseas touring teams multiple times each year. Most of the athletes will also be involved in the annual week long under age National Championships, while many will also compete in the U/19 World Championships, which are held every two years.

Physical Characteristics

Height is the most noticeable physical characteristic of basketball players, with general graduation among players from the smaller but highly skilled playmaking guards through to the taller forwards and centres. Low-medium body-fat levels can be an advantage in improving agility and speed. Additionally, basketball players need to develop strength and size to allow them to establish good body position on court and withstand the physical contact in a game, particularly forwards and the centre.

Common Nutrition Issues

Meeting fuel (carbohydrate) needs

While there has been little research into the fuel (carbohydrate) requirements of players, the fact they are training six days a week, often 2-3 times a day, means they are likely to be significant. Failure to achieve an adequate carbohydrate intake each day will have a negative impact on training performance, hinder recovery and increase susceptibility to illness. An intake target of 5-7g carbohydrate/kg/body mass serves as a useful starting point for most players. In meeting these requirements, it is important athletes learn how to manipulate their intake of carbohydrate to reflect the differing fuel demands imposed by heavy versus light \

training days. An effective strategy is to base each meal and snack around nutrient dense carbohydrate rich foods (e.g. cereal, wholegrain bread, pasta and fruit), then orientate additional carbohydrate rich foods/fluids both during (e.g. sports drink, banana/canned fruit), and in recovery from training (e.g. yoghurt, small bowl of cereal, low fat flavoured milk).

Hydration

The high-intensity nature of basketball, coupled with the controlled atmosphere stadiums in which players train, means many will incur large sweat losses, especially during long team training sessions. Studies have shown that progressive levels of fluid deficit (dehydration) during simulated basketball play can result in a concomitant decrease in exercise intensity, increased perception of effort and a decrease in the number of shots attempted and made. Therefore it is important that players aim to start each training session well hydrated and minimise the fluid deficit during the session.

While there is usually ample time during practice sessions to consume fluid, many players use this as an opportunity to catch up on poor fluid intakes during the day. To better ensure they are well hydrated prior to training, players should be proactive in consuming fluids with all meals and ensure access to fluids in between these times. During training, the choice of fluid type should be guided both the duration and intensity of the training session. During longer team training sessions (≥ 90 minutes), most players will benefit from sports drink, as it will promote greater voluntary intake over water, as well as provide an additional fuel source for the working muscles. During shorter, skilled based sessions, water is a suitable choice.

Athletes sweat rates during training can be monitored, the results of which can be used to guide fluid intake practices both during future training sessions, and establish fluid intake targets to promote re-hydration after training (See the *“How much do athletes sweat”* and *“Fluid-Who needs it?”* fact sheets for further information)

Recovery

The heavy training schedule of elite basketballers means fast and effective recovery is vital to allow them to back up from, and perform during, every session. The primary goals of recovery are to re-fuel carbohydrate (glycogen) stores, to promote repair and growth of lean muscle, as well as re-hydrate. While athletes are encouraged to begin their nutritional recovery soon after finishing training (≤ 60 minutes), it is important that the type of foods and fluids they choose reflect their individual physique goals. Athletes aiming to increase muscle size and strength will benefit from choosing an energy dense recovery snack that provides a good source of carbohydrate and protein soon after training (see the *“Recovery nutrition”* fact sheet for suggestions). Those on a stricter energy budget are best advised to use their next main meal to meet their recovery goals, or at least choose a nutrient dense snack they also contributes to their other dietary goals (e.g. yoghurt).

It is important that athletes recognise that the meal or snack they consume soon after training will only “kick start” their recovery, and the food choices they make at all meals and snacks in the period before their next session are targeted towards further contributing to their recovery goals.

Game preparation - The pre-game meal

The pre-game meal should fuel and hydrate players, but leave them feeling comfortable for the game. Ideally, the menu calls for a high-carbohydrate choice eaten at least 2-3 hours before tip-off. Pasta with low-fat sauces, rolls or sandwiches, baked potatoes with low-fat fillings and fruit salad with yoghurt, are all examples of suitable choices. Every athlete should experiment to find the routine that work best for their situation always use familiar foods, and plan ahead and be organised to ensure the appropriate foods are with them when required.

Recovery “on the road” and during tournaments

The short amount of time between games when playing interstate or during tournaments, coupled with often the late finishing times and an unfamiliar food environment, can make it difficult for players to meet their recovery goals.

Ideally, teams will stay in self-contained apartments that provide them with a greater degree of control of the type of meals consumed. Where this is not possible, it's important that players identify restaurants close to their accommodation that are capable of providing suitable food choices. Ideally, suitable menus should be organised in advance, to reduce the waiting time before athletes can be fed. Importantly, when eating out, players need to be guided by the serve size of meals they typically have at home and not by that determined by the restaurants.

While it is common for home teams to provide meals for players after games, often many of the choices offered are not suitable. Therefore, it is important that players be proactive in planning ahead of time to ensure they have access to appropriate snacks e.g. yoghurts, liquid meal supplements and fruit, that will allow them to better meet their recovery goals.

During long plane and road trips, players should try to avoid boredom eating and plan to have access to suitable high-carbohydrate snacks such as cereal bars, fruit and yoghurt, rather than rely on energy dense convenience foods that are usually available during these times.

*This fact sheet is based on National team athletes and is therefore specific to these athletes.
Written by AIS Sports Nutrition, last updated July 2013.*