

FACT SHEET

FOOD FOR YOUR SPORT SHOOTING

ABOUT SHOOTING

Shooting is a skill-based discipline where strength, flexibility, and overall fitness play a key role in ensuring consistency and accuracy throughout long periods of training and competition. Categories include shotgun, pistol and rifle. Shooters must be prepared to compete in all weather conditions.

Shooting originated as a means of survival, and it was practised in order to hunt game for food. As the industrial revolution made hunting for food less necessary, shooting evolved into a sport. Shooting is a skill-based sport where consistency, accuracy, and concentration are key features. Strength and endurance are important to support the firearm for long periods.

There are three disciplines in shooting:

- **Pistol** - short firearms are held with one unsupported hand in a standing position. There are two categories – air and rapid fire pistol over 10m, 25m and 50m.
- **Rifle** - shoulder firearms which are fired in a lying, standing, or kneeling position (or a combination) over 10m or 50m depending on the event.
- **Shotgun** - smoothbore firearms fired from the shoulder in a standing position. There are three categories – trap, skeet and trap mixed teams.

Training for shooting across all three disciplines is mainly skill-based in order to perfect technique, speed and accuracy. With this repetitive-style of training, elite athletes need to be physically and mentally fit, as they may spend two-to-three hours on the range a few days a week. Outside of the shooting range, some elite shooters may engage in strength and conditioning programs to improve:

- **Strength** - in particular, core strength, to maintain the position of the firearm for long periods of time and absorb the gun recoil in shotgun events. They also require upper body strength to lift and hold the gun steady whilst shooting; an action that is repeated many times each round.
- **Flexibility** – to allow rifle shooters to comfortably maintain kneeling and prone positions for extended periods of time.
- **Aerobic fitness** – to achieve a lower resting heart rate and ensure the athletes can perform at their best (physically and mentally) for long periods.

Domestic and international shooting competitions are generally held in the summer months; though athletes must be prepared to compete in all kinds of weather conditions. The major international competitions are:

- Olympic & Youth Olympic Games (every four years)
- Commonwealth Games (every four years)
- World Championship (every four years, two for shotgun)
- World Cup (four events plus a final every year)



TRAINING DIET

Maintaining concentration, preventing physical and mental fatigue and promoting adaptation to maximise the benefits from time spent in the gym and on the range are the primary goals of training nutrition. Food not only fuels muscle but also fuels the brain for focus, skill and concentration on the range.

A nutrient-dense diet is important for shooting athletes. Consuming a wide variety of foods from all food groups, including low-GI carbohydrates, lean protein and healthy fats. Positioning meals around training sessions is useful for performance, appetite and supporting body composition.

Portion advised and well-timed snacks can prevent over-eating later in the day. Choosing quality low-glycaemic index (GI) carbohydrate-based snacks with small amounts of protein prior to training will help maximise energy needed by the eyes, muscles and brain for enhanced concentration and stamina. Examples include fruit, low-fat yoghurt pouches, wholegrain crackers with cheese or peanut butter, low-sugar muesli bars or trail mixes. Avoid high-energy and sugary foods such as chocolate, large muffins, pastries and lollies, which can lead to fluctuations in blood sugar levels and leave athletes feeling sluggish.

HYDRATION NEEDS

Dehydration can impair focus and concentration and can negatively impact skill and coordination. Shooters should drink adequate fluids to maintain good hydration levels during training and competition. Fluid requirements vary depending on the athletes' size and gender as well as the environmental conditions (e.g. hot, humid weather, which can be common during training and competition).

Sports drinks may be useful as part of a fluid plan during events as the fluid, carbohydrate and electrolyte mix can improve fluid absorption from the gut, improve mental focus and promote fluid retention.

It is important to rehydrate after competition, especially if competing in multiple events on the same day. For more information on fluid needs, refer to the **Fluid in Sport factsheet**.

EATING BEFORE COMPETITION

Competition days are long, requiring shooting athletes to spend an entire day at the range. They must be organised and prepared with food and fluids for the entire day – ideally this should be a self-packed cooler bag or esky. Depending on the time of the day prior to a round commencing, an ideal pre-competition meal should contain low-GI carbohydrates to prime the body and brain and deliver a sustained release of energy that helps prevent blurry vision or energy slumps. The pre-competition meal should be something familiar and enjoyable that does not cause stomach upset. Practising with different food options during training is a good way to find the best pre-competition meal.

Possible options include:

- Wholegrain sandwich/roll with ham, cheese, salad
- Porridge or low-sugar cereal with milk and fresh fruit
- Baked beans on multigrain toast
- Fruit salad with Greek yoghurt and untoasted muesli
- Poached eggs and avocado on sourdough toast
- Tinned fish with wholegrain crackers

Nervous athletes may find it difficult to eat before an event. In these situations eating something light earlier in the day can help with digestion to avoid gut upset. Liquid based carbohydrates (e.g. fruit smoothie or an Up & Go) may also be easier for nervous athletes to consume.

EATING AND DRINKING DURING COMPETITION

Shooters have breaks ranging from 30 minutes to over 90 minutes between rounds, providing opportunities to eat and drink. As competition can be completed in hot conditions, replacing fluid losses and keeping cool at breaks is important. In addition, carbohydrate can enhance performance and delay the onset of central fatigue.

Practical hydration and cooling strategies include:

- Sip regularly on fluids throughout competition
- Use individual bottles to keep track of fluid intake
- Choose higher electrolyte fluids as the sodium promotes fluid absorption and retention
- Add ice to bottles and store in eskies to keep cool

Including small and easily digested snacks between events will help keep blood glucose levels topped up to sustain focus and avoid fatigue. Snacks should be low in fat to help ease digestion. It is important to be prepared on the day and not left to rely on canteen facilities at competition venues to provide suitable options.

Some appropriate snack choices include:

- Up and Go
- Yoghurt
- Fresh fruit or dried fruit as part of a trail mix
- Wholegrain sandwiches with lean meat and salad, or peanut butter and jam
- Wholegrain wraps with lean meat or tuna, avocado and salad
- Grainy crackers with vegemite and cheese
- Low-sugar muesli bars

Sports drinks may be a suitable and convenient option for some athletes (compact carbohydrate and fluid/electrolytes) particularly if eating is uncomfortable.

RECOVERY

There are three main goals of recovery nutrition:

- **Refuel muscle tissue (carbohydrate stores)**
- **Repair muscle (for function & development)**
- **Rehydrate (replace fluids lost through sweat)**

Recovery meals and snacks are particularly important after hard training sessions and long days of competition – especially if competing over several days.

Suitable recovery options can include:

- Sandwich with turkey, cheese and salad
- Tub of yoghurt and a low-sugar muesli bar
- Sushi with salmon, tuna or chicken filling
- Stir-fry with lean beef and vegetables on rice
- Homemade pizza with low fat topping

The recovery meal or snack can often be neglected, as shooters need to pack up their equipment or are caught up with post-competition duties. It can be helpful to eat a snack before returning to the accommodation or driving home. Athletes are recommended to pack enough food for the day including a recovery meal, to avoid stopping at fast-food restaurants on the way home.

As alcohol negatively impacts recovery it should be avoided – especially around multi-day competitions.