

FACT SHEET

FOOD FOR YOUR SPORT – SHOOTING

ABOUT SHOOTING

Shooting originated as a means of survival, and it was practiced 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 3 categories of firearms in shooting sports:

- Pistols are short firearms held with one unsupported hand in a standing position. Different pistols are used for different events.
- Rifles are shoulder firearms and are fired in a lying, standing, or kneeling position (or a combination) depending on the event.
- Shotguns are smoothbore firearms fired from the shoulder. Shotgun shooters use moving clay targets and are fired from the standing position.

Training for shooting sports focuses heavily on perfecting technique, where the same action can be repeated accurately over long periods of time. Elite athletes may spend 2-3 hours on the range most days of the week. They often have multiple training sessions on a day both on and off the range, which focus on:

- Strength: in particular, core strength, to maintain the position of the firearm for long periods of time and absorbing the gun recoil in shotgun events
- 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. The major international competitions are:

- Olympic & Youth Olympic Games (4 yearly)
- Commonwealth Games (4 yearly)
- World Championships (4 yearly or 2 yearly for shotgun events)
- World Cup (4 events and final each 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. Remember, 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 carbohydrates, protein, and healthy fats like nuts and avocados. Basing meals around training sessions is useful, for performance, appetite and body composition.

Portion controlled, well-timed snacks can prevent over-eating later in the day. Choosing quality snack choices and limiting high-energy snacks (e.g. chocolate, chips, pastries, cakes, etc.) will improve overall diet quality. Eating a carbohydrate based snack (e.g. fruit, yoghurt, wholegrain crackers with cheese) before training can help to 'switch on' your brain and muscles for the session ahead.

FLUID NEEDS

Dehydration can impair focus and concentration and can negatively impact skill and co-ordination. 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 environmental conditions (e.g. hot, humid weather, which can be common during training and competition).

Shooters may deliberately choose to limit fluid intake during competition to avoid the need for toilet breaks. However, the benefits of maintaining good hydration levels should not be underestimated. 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.

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EATING BEFORE COMPETITION

Competition days can be long therefore it is important to eat a pre-competition meal that contains carbohydrate to prime the body and brain for the day. Lower glycemic index (GI) carbohydrates can be useful as these deliver a more sustained release of carbohydrate, which can also help prevent the distraction of hunger during competition.

The pre competition meal should be something familiar and enjoyable that does not cause stomach upset. Practicing with different food options during training is a good way to find the best pre-competition meal for each individual. Possible options include:

- Wholegrain sandwich/roll with cheese and salad
- Porridge with milk and fresh fruit
- Baked beans on multigrain toast
- Fruit salad with Greek yoghurt and natural muesli
- Poached eggs and avocado on sourdough toast

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 Sustagen Sport) may also be easier for nervous athletes to eat.

EATING AND DRINKING DURING COMPETITION

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 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

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

Some appropriate snack choices include:

- Dairy based smoothies or Flavoured milk
- Yoghurt
- Fruit fresh or tinned fruit in natural juice
- Sandwiches with lean meat or spread
- Fruit muffins or crumpets with jam/honey
- Sushi rolls
- Grainy crackers + vegemite and cheese

Sports drinks can provide a convenient and compact source of fuel (carbohydrate) and fluid if eating is uncomfortable for the athlete.

RECOVERY

There are main goals of recovery nutrition:

- Refuel muscle glycogen (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 wholegrain cereal bar
- Sushi with salmon, tuna or chicken filling
- Stir-fry with lean beef and vegetables on rice
- Homemade pizza with low fat topping

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

OTHER NUTRITION TIPS

- **Caffeine** has been associated with improved reaction time and shooting accuracy. However, it can also have negative consequences in some people (e.g. shakiness). A known dose of caffeine is essential. For more information refer to the Caffeine factsheet and work with an Accredited Sports Dietitian to determine the most effective dose and type of caffeine to minimise side effects