

EATING FOR YOUR SPORT

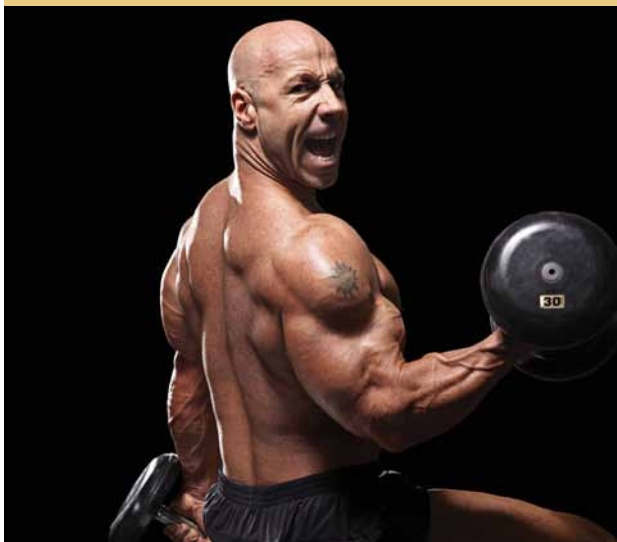
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Many factors contribute to success in sport, including talent, training, motivation and resistance to injury. When all is equal, the margin between victory and defeat is usually small and attention to detail can therefore make that vital difference. Nutrition is one aspect of detail that can affect performance and the food that athletes choose in training and competition will affect how well they train and compete. Athletes need to be aware of their nutritional goals and eating strategies should be selected to meet those goals.

STRENGTH SPORTS

Olympic weightlifting, powerlifting, throwing events, 100-200 m

- Periodised training involves resistance workouts, plus sport-specific workouts such as plyometrics, lifting and throwing
- Goals are to enhance power and strength, and in the case of bodybuilders, to increase muscle size
- Main nutrition goals related to resistance training are:
 - Fuelling training sessions
 - Recovering from training sessions
 - Maximising adaptations, including an increase in muscle mass
- There is a culture of interest in high protein intakes
- There is a culture of interest in supplements
- In the case of bodybuilders, there is a culture of extreme diets to “cut up” for competition
- In the case of lifters, there is a culture of “making weight” for competition weight divisions
- Competitive events often involve multiple throws of lifts, or rounds (e.g. heats and finals)



EATING STRATEGIES FOR STRENGTH SPORTS

- Consume a diet high in energy to support levels of high lean mass.
- Consume adequate carbohydrate to fuel resistance training, since this is glycogen-using.
- Consume adequate but not excessive amounts of protein, since these foods are expensive and may displace carbohydrate needs.
- Consume a source of high-quality protein (20-25 g) soon after resistance workouts.
- Spread protein intake over the day.
- Select low fat protein options to avoid unnecessarily high intake of saturated fat.
- Avoid extreme dieting behaviour prior to bodybuilding competition – rather, achieve loss of body fat by safe and longer-term methods.
- Avoid extreme weight loss behaviour prior to weightlifting competition. Choose a suitable weight class and allow adequate time if weight loss is required to achieve this target. Small amounts of weight loss in the days before competition may be safely achieved.
- For athletes participating in throwing and sprinting events, choose a pre-event meal that keeps you comfortable throughout the competition. If there are rounds in your event or time between throws, make sure you have access to fluids and foods to keep you appropriately fuelled and hydrated.
- Seek expert advice if you are unable to meet your goals easily or want specialised advice on supplement use.



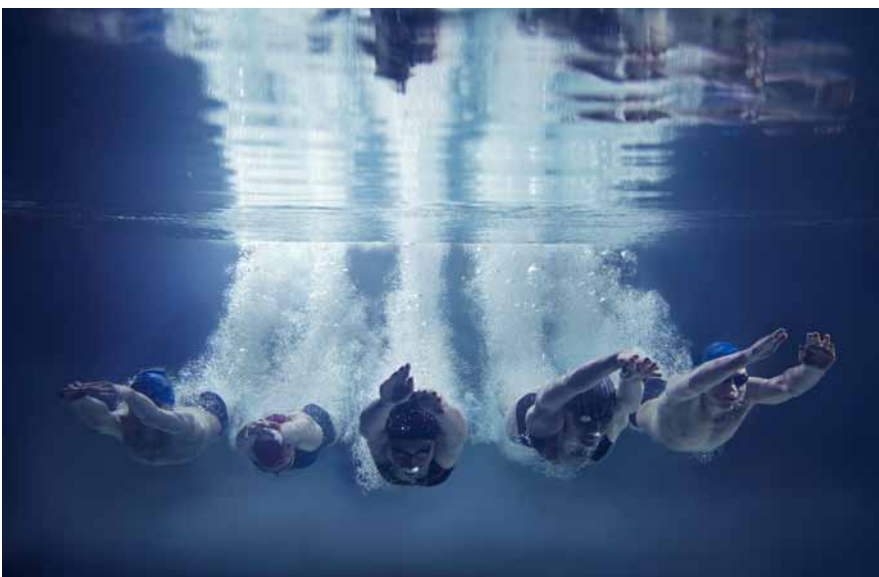
POWER SPORTS

Middle distance running, track cycling, rowing, canoeing / kayaking and swimming

- Success is defined by the ability to produce very high power outputs for races ranging from 1-10 minutes.
- The continuum of fuel systems need to be well developed required a highly periodised training programme.
- Nutrition goals change substantially with the different phases of training:
 - General preparation: high training volume training, manipulation of body composition
 - Specific preparation: high-intensity training, often with specialised periods such as altitude training
 - Taper / competition: lower volume / high intensity; race focus, avoidance of weight gain
 - Transition: light training, small weight gain usual
- Goals during training include achieving ideal physique, usually involving low body fat levels, and in some sports, muscularity. Competition physique may only be maintained for a short period, some loss of physique during off-periods of the year, but athletes should try to minimise this.
- Performance of a race may be limited by build-up of acidity as a by-product of sustained high-intensity work.
- Competitive events often involve multiple rounds (heats, semis, finals, etc.)

EATING STRATEGIES FOR POWER SPORTS

- Vary energy intake between training phases according to the training load.
- Consume moderate-high levels of carbohydrate according to the fuel needs of the training phase.
- Consume fluids and carbohydrate during prolonged training sessions to support hydration and fuel needs.
- Consume a source of high quality protein (20-25g) and carbohydrate soon after key workouts to promote refuelling and adaptation.
- Achieve competition physique goals gradually with major effort during base phase and fine-tuning just prior to racing season.
- Consider the use of supplements carefully options that power athletes might use include buffers that are intracellular (-alanine) and extracellular (bicarbonate).
- Choose a suitable pre-event meal that keeps you comfortable during your event.
- If there are heats and finals in your event, and especially, if you are competing in more than one event in a session, make sure you have access to fluids and foods to recover between races.
- Look after special needs for specialised training phases, such as altitude training. This may alter energy and fuel needs, fluid losses and iron requirements.
- Seek expert advice if you are unable to meet your goals easily or want specialised advice on supplement use.



ENDURANCE SPORTS

Marathon, triathlon and road cycling

- The success in endurance sports is defined by the ability to sustain performance over prolonged periods.
- **Nutrition goals** change according to the phase of training:
 - General preparation: high training volume training, manipulation of body composition
 - Specific preparation: high-intensity training, often with specialised periods, such as altitude training
 - Taper / competition: lower volume / high intensity; race focus, avoidance of weight gain
 - Transition: light training, small weight gain usual
- Goals include achieving ideal physique, usually involving low body fat levels, and in some sports, muscularity. Competition physique may only be maintained for a short period. Some loss of physique during off-periods of the year, but athletes should try to minimise this.
- Athletes are often at risk of developing issues with eating and body image.
- Fatigue or decline in performance during a race may be caused by dehydration, fuel depletion, gastrointestinal discomfort and other factors.
- Opportunities for fluid and fuel intake during a race vary according to the sport, but usually require the athlete to eat or drink "on the move". Supplies may be provided at feed zones or from team support crews or may need to be carried by the athlete.
- Competition phases differ according to sports, from marathon racing, where the athlete may undertake 1-2 major competitions per year, to road cycling where professional cyclists may compete on 100 days of the year.



EATING STRATEGIES FOR ENDURANCE SPORTS

- Vary energy intake between training phases according to the training load. Maintain adequate energy availability and look after special needs for specialised training phases, such as altitude training. This may alter energy and fuel needs, fluid losses and iron requirements.
- Consume moderate-high levels of carbohydrate according to the fuel needs of the training phase.
- Consume fluids and carbohydrate during prolonged training sessions to support hydration and fuel needs.
- Consume nutrients after training sessions to target elements of recovery – this includes fluids and electrolytes for rehydration, carbohydrate for refuelling and a source of high-quality protein (20 – 25 g) to promote muscle adaptation.
- Set safe and achievable physique goals for training gradually, with major effort during base phase and fine-tuning just prior to racing season.
- Prepare for competition with carbohydrate fuelling techniques suited to the fuel needs of the event. For events lasting longer than 90 minutes, consider carbohydrate loading over the 2 – 3 days prior to the race.
- Choose a pre-race meal that promotes additional fuelling but leaves the gut feeling light and comfortable for the race.
- Develop a plan of eating and drinking during the race to maintain adequate hydration and additional carbohydrate depending on the fuel needs of the event. Carbohydrate goals may range from small frequent "tastes" during brief events (45 – 75 minutes) to aggressive intakes of up to 80 – 90 g per hour in ultra-endurance races (>2 ½ hours). Practise the plan in training to perfect it.

- Consider the use of sports foods and supplements carefully: options include caffeine, sports gels / bars / drinks.
 - Seek specialised advice if you are unable to meet your goals easily or want supplement advice.



AESTHETIC & WEIGHT CLASS SPORTS

Gymnastics, diving, combative sports and lightweight rowing

- Success in the aesthetic sports may be defined at least partially by the athlete's appearance and a subjective judgement of how it conforms to ideal in that sport.
- Physical skills may be assisted by a small and light physique that makes it easy to move in a small space.
- Athletes in some sports are classified in weight divisions to promote competition between people of similar size and strength. In these sports, there is a culture of "making weight" for competition weight divisions.
- Training loads vary according to the sport, but may range from high volume / intensity (lightweight rowing) to lengthy but moderate in energy expenditure (e.g. gymnastics).
- The emphasis on low body mass and low body fat levels creates an increased risk of issues with eating and body image.



EATING STRATEGIES FOR AESTHETIC AND WEIGHT CLASS SPORTS

- Maintain adequate energy availability for your training and competition energy expenditure. Factor needs for growth.
- Consume moderate-high levels of carbohydrate according to the fuel needs of the training phase.
- Choose weight and body fat goals that are achievable and support long-term health and performance.
- Choose nutrient-dense foods, and a good spread of high-quality protein over the day so that you maximise your ability to meet nutritional goals.
- In weight category sports, choose a weight division that can be achieved safely and within minimal stress.
- If you feel you are developing issues with food related stress, seek intervention at an early stage.
- Prepare for competition by fine-tuning weight, without the need for extreme weight loss measures.
- If you have made weight using techniques based on milk dehydration and reduction in food intake, use the period after the weigh in to rehydrate and fuel up for the event.
 - Consider the use of supplements carefully: there are no magic pills or potions that promote loss of body fat.



TEAM SPORTS

Football, basketball, field hockey and netball

- **Nutrition goals** change according to the phase of the highly periodised calendar:
 - General preparation: high training volume training, manipulation of body composition
 - Pre-season preparation: increase in skills and tactical training; practice games
 - Competition: may involve a large number of games, with 2-7 days of recovery
 - Off-season: no scheduled training
- Work patterns involve high-intensity intermittent exercise with brief recovery intervals: patterns vary between players and between matches.
- Success is determined by overlay of skills on these work patterns, requiring concentration and judgement.
- A range of desirable physiques exists according to the sport and to the position within a team: may include the need for bulk and muscularity or leanness and low body fat levels.
- Competition may be in weekly fixture or in tournament format: both require recovery after match.
- Fatigue or decline in performance during a match may be caused by dehydration, fuel depletion, gastrointestinal discomfort and other factors.
- Opportunities to consume fluids and carbohydrate during a match vary according to the rules of the sport. There may be breaks between periods, substitutions or informal breaks in play that allow nutritional support.
- In many team sports, there is a culture of alcohol misuse after matches and during the off season.

EATING STRATEGIES FOR TEAM SPORTS

- Periodise energy and carbohydrate intake according to the fuel needs of the training / competition phase.
- Consume fluids and carbohydrate during prolonged training sessions to support hydration and fuel needs.
- Consume nutrients after training sessions or matches to target elements of recovery – this includes fluids and electrolytes for rehydration, carbohydrate for refuelling and a source of high-quality protein (20 – 25 g) to promote muscle adaptation.
- Set safe and achieve physique goals for training gradually, with major effort during base phase and fine-tuning prior to competition season. Avoid large loss of conditioning during the off-season.
- Prepare for matches with carbohydrate intake suited to the fuel needs of the event. Midfield players and other with heavy workloads should consider more aggressive carbohydrate intake in the 1 – 2 days prior to the match.
- Choose a pre-match meal according to the time of day that promotes additional fuelling but leaves the gut feeling comfortable.
- Develop a plan of eating and drinking during the match according to the available opportunities. Aim to maintain adequate hydration and additional carbohydrate depending on the fuel needs of the event. Carbohydrate goals may range from small frequent “tastes” during brief matches (45 – 75 minutes) to intakes of 30- 60 g per hour for matches of 60 – 90 minutes, practice the plan in training sessions and pre-season games to perfect it.
- Develop a sensible attitude to alcohol intake.
- Consider the use of sports foods and supplements carefully: options include caffeine, sports gels / bars / drinks.
- Seek expert advice if you are unable to meet your goals easily or want specialised advice on managing your weight and physique goals.

