

Webinar

Integrazione e Sport: l'importanza
dell'alimentazione e degli integratori nel
fare o per fare sport

Data: 9 Aprile 2021 ore 17,30



**“Scelte consapevoli nell'utilizzo degli
integratori per lo sportivo”**

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Gli integratori sono realmente necessari
o esistono valide "soluzioni alternative"?

“ l'intellettuale è il chierico del dubbio ”

Norberto Bobbio



FEDERAZIONE
DELLE SOCIETÀ
ITALIANE
DI NUTRIZIONE



Ministero del Lavoro, della Salute e delle Politiche Sociali



Settore Salute



Linee Guida per una sana alimentazione

DOSSIER SCIENTIFICO

Edizione 2017



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Linee guida
per una sana alimentazione



edizione 2018

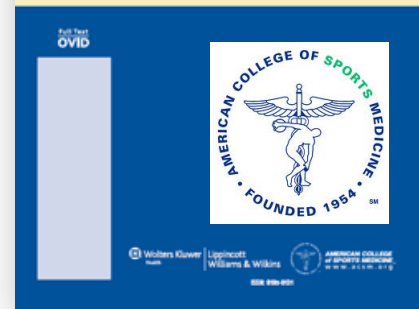


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PEDIATRICA



The Official Journal of the American College of Sports Medicine
www.acsm-mssa.org



DIETARY SUPPLEMENTS AND ERGOGENIC AIDS

The overwhelming number and increased availability of sports supplements presents an ongoing challenge for the practitioner and the athlete to keep up-to-date about the **validity of the claims and scientific evidence**. Although dietary supplements and nutritional ergogenic aids, such as nutritional products that enhance performance, are highly prevalent, **the fact remains that very few improve performance (117–119) and some may cause concern.**

[...] **Dietary supplements or ergogenic aids will never substitute for genetic makeup, years of training, and optimum nutrition.**



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Dietitians of Canada
Les diététistes du Canada

**eat
right.**

**American
Dietetic
Association**



Nutrition and Athletic Performance

JOINT POSITION STATEMENT

The fundamental differences between an athlete's diet and that of the general population are that athletes require additional fluid to cover sweat losses and additional energy to fuel physical activity. As discussed earlier, it is appropriate for much of the additional energy to be supplied as carbohydrate. The proportional increase in energy requirements seems to exceed the proportional increase in needs for most other nutrients.

Med Sci Sports Exerc. 2009 Mar; 41(3):709-31 JADA 2009 Mar; 109 (3): 509-527.

Med Sci Sports Exerc. 2016 Mar; 48(3):543-68

Fueling for Performance

Jeffrey R. Bytowski, DO*†

Table 4. Nutrient intake surrounding activity

When	Protein	Carbohydrate	Fat	Comment
Preexercise	20-30 g, especially for resistance training	200-300 g	Limit due to gastrointestinal distress	If an athlete is carbohydrate loading, he/she may consume 8-10 g/kg body weight/day for 1-3 days prior to competition
During exercise	Not needed	30-60 to 90 g/h depending on length of activity	Not needed	Hydration only if activity under 60 minutes. Should be liquid/gel-form carbohydrates for easy digestibility
Postexercise	20-30 g within 30 minutes	60-120 g within 30 minutes (1:3-4 ratio with protein)	In normal ratio with protein and carbohydrates	Continue refeeding with postworkout meal for regular refueling needs depending on exercise intensity

La Dieta Mediterranea ricca di cereali, frutta e verdura e con le giuste fonti di proteine (pesce, legumi, latte e derivati, uova e carne) è l'alimentazione ideale per chi fa sport anche in “tempo di Covid-19”.



**COCKTAIL
ANTIOSSIDANTE**

Antioxidants for athletes

Key messages



There is **no evidence** that physical training requires antioxidant supplementation above the normal antioxidants from a well-balanced diet.



There is **no evidence** that antioxidants have a positive effect on **recovery**.



Dietary antioxidants **can be used** as an antioxidant **only once** whereas the endogenous antioxidant system can be used over and over again.



There is increasing evidence that antioxidant supplementation in **high doses can reduce training adaptation**.



Exercise is the best antioxidant. Antioxidant enzymes in our bodies can be used over and over again and these enzymes are up-regulated (increase) with training.



Eat a varied diet with fruits and vegetables. You will not have to supplement. If you do supplement, be aware that high doses may make training less effective.

DIETARY SUPPLEMENTS AND ERGOGENIC AIDS

In general, no vitamin and mineral supplements are required if an athlete is consuming adequate energy from a variety of foods to maintain body weight. Supplementation recommendations unrelated to exercise, such as folic acid for women of childbearing potential, should be followed. A multivitamin/mineral supplement may be appropriate if an athlete is dieting, habitually eliminating foods or food groups, is ill or recovering from injury, or has a specific micronutrient deficiency.

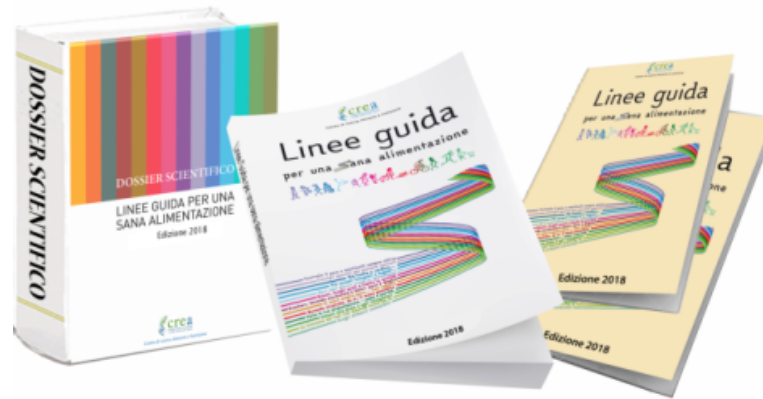
UEFA expert group statement on nutrition in elite football. Current evidence to inform practical recommendations and guide future research

Consensus statement

Nutrition plays a valuable integrated role in optimising performance of elite players during training and match-play, and maintaining their overall health throughout the season.

An evidence-based approach to nutrition emphasising, a 'food first' philosophy (ie, food over supplements), is fundamental to ensure effective player support.

This requires relevant scientific evidence to be applied according to the constraints of what is practical and feasible in the football setting.



11. ATTENTI ALLE DIETE E ALL'USO DEGLI INTEGRATORI SENZA BASI SCIENTIFICHE

CREA Alimenti e Nutrizione - **Linee guida** per una sana alimentazione
2018 – **PUNTO 11**

Giampietro M., Prodotti dietetici e integratori per la pratica sportiva – Capitolo 11
sez. 5 in CREA –Alimenti e nutrizione, **Dossier Scientifico** delle Linee Guida per una
sana alimentazione (Edizione 2018) Pubblicato online nel febbraio 2020.

<https://www.crea.gov.it/web/alimenti-e-nutrizione/-/nuove-linee-guida-per-una-sana-alimentazione-edizione-2018->

Med Sci Sports Exerc. 2016 Mar; 48(3):543-68

These supplements may perform as claimed but does not imply endorsement by this position stand. ^a Athletes should be assisted to undertake a cost to benefit analysis (141) before using any sports food and supplements with consideration of potential nutritional, physiological, and psychological benefits for their specific event weighed against potential disadvantages. Specific protocols of use should be tailored to the individual scenario (see references for further information) and specific products should be chosen with consideration of the risk of contamination with unsafe or illegal chemicals.

TABLE 3. Dietary supplements and sports foods with evidence-based uses in sports nutrition.

Category	Examples	Use	Concerns	Evidence
Sports food	Sports drinks Sports bars Sports confectionery Sports gels Electrolyte supplements Protein supplements Liquid meal supplements	Practical choice to meet sports nutritional goals especially when access to food, opportunities to consume nutrients or gastrointestinal concerns make it difficult to consume traditional food and beverages	Cost is greater than whole foods May be used unnecessarily or in inappropriate protocols	Burke (2015) ¹⁴¹
Medical supplements	Iron supplements Calcium supplements Vitamin D supplements Multi-vitamin/mineral n-3 fatty acids	Prevention or treatment of nutrient deficiency under the supervision of appropriate medical/nutritional expert	May be self-prescribed unnecessarily without appropriate supervision or monitoring	Burke (2015) ¹⁴¹

Specific performance supplements	Ergogenic effects	Physiological effects/mechanism of ergogenic effect	Concerns regarding use ^a	Evidence
Creatine	Improves performance of repeated bouts of high-intensity exercise with short recovery periods - Direct effect on competition performance - Enhanced capacity for training	Increases Creatine and Phosphocreatine concentrations May also have other effects such as enhancement of glycogen storage and direct effect on muscle protein synthesis	Associated with acute weight gain (0.6–1 kg) which may be problematic in weight sensitive sports May cause gastrointestinal discomfort Some products may not contain appropriate amounts or forms of creatine	Tarnopolsky (2010) ¹⁴³

Specific performance supplements	Ergogenic effects	Physiological effects/mechanism of ergogenic effect	Concerns regarding use ^a	Evidence
Caffeine	Reduces perception of fatigue Allows exercise to be sustained at optimal intensity/output for longer	Adenosine antagonist with effects on many body targets including central nervous system Promotes Ca ²⁺ release from sarcoplasmic reticulum	Causes side-effects (tremor, anxiety, increased heart rate, etc.) when consumed in high doses Toxic when consumed in very large doses Rules of National Collegiate Athletic Association competition prohibit the intake of large doses that produce urinary caffeine levels exceeding 15 ug/ml Some products do not disclose caffeine dose or may contain other stimulants	Astorino (2010) ¹⁴⁴ Tamopolsky (2010) ¹⁴³ Burke (2013) ¹⁴⁵
Sodium bicarbonate	Improves performance of events that would otherwise be limited by acid–base disturbances associated with high rates of anaerobic glycolysis - High intensity events of 1–7 minutes - Repeated high-intensity sprints - Capacity for high-intensity ‘sprint’ during endurance exercise	When taken as an acute dose pre-exercise, increases extracellular buffering capacity	May cause gastrointestinal side-effects which cause performance impairment rather than benefit	Carr (2011) ¹⁴⁶
Beta-alanine	Improves performance of events that would otherwise be limited by acid–base disturbances associated with high rates of anaerobic glycolysis - Mostly targeted at high-intensity exercise lasting 60–240 seconds - May enhance training capacity	When taken in a chronic protocol, achieves increase in muscle carnosine (intracellular buffer)	Some products with rapid absorption may cause paresthesia (tingling sensation)	Quesnele (2014) ¹⁴⁷
Nitrate	Improves exercise tolerance and economy Improves performance in endurance exercise at least in non-elite athletes	Increases plasma nitrite concentrations to increase production of nitric oxide with various vascular and metabolic effects that reduces O ₂ cost of exercise	Consumption in concentrated food sources (eg, beetroot juice) may cause gut discomfort and discoloration of urine Efficacy seems less clear cut in high caliber athletes	Jones (2014) ¹⁴⁸

Gruppo A

Prodotti dall'efficacia comprovata in alcuni sport e per specifiche situazioni (il cui uso prevede protocolli basati sull'evidenza)

Prodotti per lo sport: sono prodotti specifici utili per fornire una fonte pratica di nutrienti quando è impraticabile consumare alimenti d'uso comune

Integratori o farmaci: vengono usati per trattare problemi clinici, incluse carenze nutritive diagnosticate. Richiedono, pertanto, la prescrizione o il consiglio e la supervisione da parte di un medico dello sport o altro professionista sanitario qualificato

Aiuti ergogenici: utili per contribuire al miglioramento della prestazione sportiva se adoperati con protocolli individuali sotto la direzione di un medico sportivo o altro professionista qualificato. Sebbene sussista un'evidenza di base per l'uso di questi prodotti, spesso è necessaria una ricerca supplementare per ottimizzare i protocolli per l'uso specifico e individuale.

Prodotti per lo sport:
Bevande per lo sport
Gel per lo sport
Gelatine e caramelle per lo sport
Pasti liquidi
Proteine del siero di latte
Barrette energetiche
Elettroliti

Integratori o farmaci:
Integratori di calcio
Integratori di ferro
Probiotici
Multivitaminici/minerali
Vitamina D

Aiuti Ergogenici:
Caffeina
Beta alanina
Bicarbonato
Succo di barbabietola
Creatina

IOC consensus statement: dietary supplements and the high-performance athlete

Ronald J Maughan,¹ Louise M Burke,^{2,3} Jiri Dvorak,⁴ D Enette Larson-Meyer,⁵ Peter Peeling,^{6,7} Stuart M Phillips,⁸ Eric S Rawson,⁹ Neil P Walsh,¹⁰ Ina Garthe,¹¹ Hans Geyer,¹² Romain Meeusen,¹³ Lucas J C van Loon,^{3,14} Susan M Shirreffs,¹ Lawrence L Spriet,¹⁵ Mark Stuart,¹⁶ Alan Vernece,¹⁷ Kevin Currell,¹⁸ Vidya M Ali,¹⁹ Richard GM Budgett,²⁰ Arne Ljungqvist,²¹ Margo Mountjoy,^{22,23} Yannis P Pitsiladis,¹⁹ Torbjørn Soligard,²⁰ Uğur Erdener,¹⁹ Lars Engebretsen²⁰

Conclusion

Dietary supplements can play a small role in an athlete's sports nutrition plan, with products that include essential micronutrients, sports foods, performance supplements and health supplements all potentially providing benefits. Some supplements, when used appropriately, may help athletes to meet sports nutrition goals, train hard, and stay healthy and injury-free. A few supplements can directly enhance competition performance. However, it takes considerable effort and expert knowledge to identify which products are appropriate, how to integrate them into the athlete's sports nutrition plan, and how to ensure that any benefits outweigh the possible negative side effects, including the potential for an ADRV.

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Nutrition and Athletic Performance

JOINT POSITION STATEMENT

JADA 2009 Mar; ; 109 (3): 509-527. Med Sci Sports Exerc. 2009 Mar; 41(3):709-31

Sodium bicarbonate may be an effective ergogenic aid as a blood buffer (role in acid-base balance and prevention of fatigue), but its use is not without unpleasant adverse effects such as diarrhea.

Nuotatrice 14 anni ingerisce bicarbonato, in coma a Siracusa

Si allenava con la sua squadra, assunzione per migliorare le prestazioni

13 settembre, 19:12

g+1 4

Tweet 6

Consiglia 193

Indietro Stampa Invia Scrivi alla redazione Suggestisci ()

A A A+

E' in coma nel reparto di rianimazione dell'ospedale Umberto I da cinque giorni. Una ragazza di 14 anni di Roma si trovava a Siracusa insieme alle altre atlete della sua squadra di nuoto per uno stage di preparazione di una settimana in vista della stagione agonistica. Sabato sera il ricovero in ospedale: avrebbe ingerito una dose massiccia di bicarbonato di sodio, forse venti cucchiaini, e anche Citrosodina e un farmaco antinfiammatorio.

Un mix che le avrebbe provocato uno scompenso nell'organismo, con l'alterazione dei livelli di sodio e potassio, che si è manifestato con un edema cerebrale. La ragazza ha subito un intervento chirurgico e al momento, secondo quanto riferiscono i sanitari, le sue condizioni sono molto gravi. Sembra che ingerire bicarbonato di sodio sia una pratica usata dagli atleti per abbassare la produzione di acido lattico e fornire una migliore resa nella prestazione.

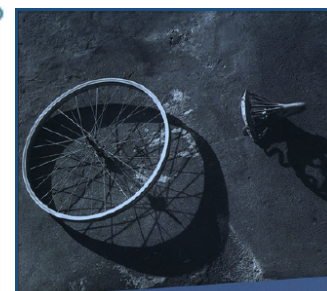
La ragazza, con le compagne e due accompagnatori, era giunta in città ad inizio di settimana e il rientro era previsto per lunedì scorso. La Procura della Repubblica si sta occupando della vicenda. Anche altre ragazze hanno ingerito bicarbonato, ma solo alcuni cucchiaini.



1 di 1

Guarda la foto

Immagine di una gara di nuoto



Alessandro Donati

Lo sport
del doping

Chi lo subisce, chi lo combatte



Scientific Opinion on the safety of caffeine

In the health claim opinion (EFSA NDA Panel, 2011b), a reduction in the rated perceived exertion/effort during exercise was considered by the Panel as a plausible mechanism by which single doses of caffeine administered after at least 12–24 hours of caffeine deprivation could increase endurance capacity and performance. In this context, the Panel considered this to be a beneficial physiological effect for adults performing endurance exercise willing to obtain such an effect.

In the context of this opinion, however, a reduction in the perceived exertion/effort during exercise can be considered a potential adverse health effect for the general population (not limited to adults performing endurance exercise willing to obtain such an effect) under the assumption that the perception of fatigue is a physiological mechanism leading to the spontaneous ending of physical activities that, because of their high intensity, extended duration or both, may compromise the cardiovascular and/or musculoskeletal systems. The Panel notes that single doses of caffeine which have been observed to reduce the rated perceived exertion/effort during exercise (≥ 4 mg/kg bw) are equivalent to 280 mg of caffeine for a 70-kg adult.

Wake up and smell the coffee: caffeine supplementation and exercise performance—an umbrella review of 21 published meta-analyses

CONCLUSIONS

Caffeine ingestion may be ergogenic for a broad range of exercise tasks. The performance-enhancing effects of caffeine on:

(A) muscle endurance, (B) muscle strength, (C) anaerobic power and (D) aerobic endurance were supported by moderate-to-high quality reviews and moderate quality of evidence. For other outcomes, even though the reviews were of moderate quality, the evidence was of very low or low quality. The magnitude of the effect of caffeine is generally greater for aerobic as compared with anaerobic exercise.

Wake up and smell the coffee: caffeine supplementation and exercise performance—an umbrella review of 21 published meta-analyses

Is coffee a good way to consume caffeine?

While the results of this umbrella review suggest that caffeine is ergogenic in the majority of exercise situations, it is important to keep in mind that the majority of studies use caffeine anhydrous (highly concentrated caffeine powder) as the caffeine source, with a smaller group of studies utilising caffeine-containing supplements such as energy drinks, bars and gels. Coffee—the most widely used method of caffeine ingestion globally—is relatively underexplored as a pre-exercise performance enhancer. Hodgson and colleagues⁴⁸ reported that caffeine anhydrous and coffee, standardised to deliver a caffeine dose of 5 mg/kg, were similarly effective in enhancing aerobic endurance performance. Similar results have been reported for resistance and sprint exercise.^{49,50} As a result, coffee is likely an effective ergogenic aid; the main issue here is a practical one. To be ergogenic, the caffeine dose from coffee likely has to fall within the 3–6 mg/kg range.

The caffeine dose received from coffee depends on many factors, including bean type, preparation method and size of the cup; there are large differences in caffeine concentrations between different coffee brands and flavours and within the same brand across time.^{51–53} As a result, while the ‘average’ cup of coffee contains around 100 mg of caffeine—meaning that two cups would deliver ~200 mg, representing ~3 mg/kg for a 70 kg individual—this amount is hard to quantify in the specific cup of coffee that person is drinking.⁵¹ While keeping those caveats in mind, as a broad rule of thumb, two cups of coffee, consumed around 60 min before exercise, should exert an ergogenic effect in most individuals.

SCIENTIFIC OPINION

Scientific Opinion on the substantiation of health claims related to creatine and increase in physical performance during short-term, high intensity, repeated exercise bouts (ID 739, 1520, 1521, 1522, 1523, 1525, 1526, 1531, 1532, 1533, 1534, 1922, 1923, 1924), increase in endurance capacity (ID 1527, 1535), and increase in endurance performance (ID 1521, 1963) pursuant to Article 13(1) of Regulation (EC) No 1924/2006¹

EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA)^{2, 3}

European Food Safety Authority (EFSA), Parma, Italy

On the basis of the data presented, the Panel concludes that a cause and effect relationship has **NOT** been established between the consumption of creatine and

- an *increase in endurance capacity*;
- an *increase in endurance performance*.

On the basis of the data presented, the Panel concludes that a cause and effect relationship has been established between the consumption of creatine and an increase in physical performance during short-term, high intensity, repeated exercise bouts.

The Panel considers that in order to obtain the claimed effect, 3 g of creatine should be consumed daily. The target population is adults performing high-intensity exercise.

Creatine in combination with resistance training and improvement in muscle strength: evaluation of a health claim pursuant to Article 13(5) of Regulation (EC) No 1924/2006

Conclusions

On the basis of the data presented, the Panel concludes that:

- The food constituent creatine, which is the subject of the health claim, is sufficiently characterised.
- The claimed effect and the target population proposed by the applicant are 'improvement of muscle strength/muscle function in individuals above 55 years of age who regularly perform resistance training'. Improvement in muscle strength is a beneficial physiological effect
- A cause and effect relationship has been established between the consumption of creatine in combination with resistance training and improvement in muscle strength.
- The following wording reflects the scientific evidence: 'daily creatine consumption can enhance the effect of resistance training on muscle strength in adults over the age of 55'.
- In order to obtain the claimed effect, 3 g of creatine should be consumed daily in conjunction with a resistance training which allows an increase in the workload overtime. Resistance training should be performed at least three times per week for several weeks, at an intensity of at least 65–75% of one repetition maximum. The target population is adults over the age of 55, who are engaged in regular resistance training.

Scientific Opinion on the substantiation of health claims related to beta-alanine and increase in physical performance during short-term high-intensity exercise (ID 436, 1453, 1454, 1459), increase in time to exhaustion (ID 437, 438, 439, 683, 1452, 1455, 1456, 1459) and increase in muscle carnosine stores (ID 1457, 1458) pursuant to Article 13(1) of Regulation (EC) No 1924/2006¹

CONCLUSIONS

On the basis of the data presented, the Panel concludes that:

- The food constituent, beta-alanine, which is the subject of the health claims is sufficiently characterised.

Increase in physical performance during short-term high-intensity exercise (ID 436, 1453, 1454, 1459)

- A cause and effect relationship has not been established between the consumption of beta-alanine and an increase in physical performance during short-term high-intensity exercise.

Increase in time to exhaustion (ID 437 438, 439, 683, 1452, 1455, 1456, 1459)

- A cause and effect relationship has not been established between the consumption of beta-alanine and an increase in time to exhaustion.

Increase in muscle carnosine stores (ID 1457, 1458)

- The Panel concludes that a cause and effect relationship has not been established between the consumption of beta-alanine and a beneficial physiological effect related to an increase in muscle carnosine stores.

On the basis of the data presented, the Panel concludes that a cause and effect relationship has not been established between the consumption of BCAA and

- *growth or maintenance of muscle mass,*
- *attenuation of the decline in muscle power following exercise at high altitude,*
- *faster recovery from muscle fatigue after exercise,*
- *improvement of cognitive function after exercise,*
- *reduction in perceived exertion during exercise,*
- *and “healthy immune system”.*

EFSA Journal 2010;8(10):1790

Integratore “casalingo” di amminoacidi ramificati (BCAA)

Alimento Quantità (g)	Proteine (g)	Amminoacidi ramificati (BCAA)			Carbo- idrati (g)	Lipidi (g)	Energia (kcal)
		<i>Valina</i> (mg)	<i>Isoleucina</i> (mg)	<i>Leucina</i> (mg)			
Panino (100 g)	9	469	374	691	58	1,9	269
Bresaola (60 g)	19	1012	965	1591	/	1,6	91
Totale (160 g)	28	1481	1339	2282	58	3,5	360
		BCAA tot. mg 5102 = 5 g					

Gruppo B

Prodotti che necessitano di ulteriori studi

Polifenoli alimentari: *sostanze chimiche di origine alimentare con azione bioattiva, tra cui attività antiossidante e antinfiammatoria. Possono essere consumati sotto forma di alimenti o come prodotti chimici isolati.*

Polifenoli alimentari:

Quercitina

Succo di amarene

Bacche esotiche (acai, goji etc.),

Curcumina

Altri:

Vitamina C ed E come antiossidanti

Carnitina

Acido beta idrossibutirrico (HMB),

Glutamina

Olii di pesce

Glucosamina

Gruppo C

Prodotti che NON hanno alcuna prova significativa di effetti benefici

Rientrano in questo gruppo i prodotti dei gruppi A e B non utilizzati secondo protocolli approvati.

Inoltre, se una sostanza o un ingrediente di un integratore non è elencata/o nei gruppi A, B o D, probabilmente appartiene a questo gruppo.

Il gruppo C è stato semplificato rimuovendo i nomi dei singoli composti dopo aver riscontrato che i prodotti acquisivano notorietà e venivano percepiti come speciali a causa del loro inserimento in questo gruppo.

Gruppo D

Prodotti vietati o ad alto rischio di contaminazione con sostanze dopanti

Stimolanti: efedrina, stricnina, sibutramina, DMAA, DMBA, altri stimolanti erboristici

Precursori di ormoni e promotori ormonali: DHEA, Androstenedione, 19-norandrostenedione/olo, Tribulus terrestris e altri promotori del testosterone, polvere di radice della Maca

Peptidi e altri rilascianti dell'ormone della crescita (GH): sebbene siano a volte venduti come integratori (o descritti come tali), da un punto di vista tecnico tali sostanze sono di solito prodotti farmaceutici non approvati.

Beta 2 agonisti: Higenamina (norcolina, norcoclaurina)

Altri: glicerolo utilizzato per strategie di reidratazione/iperdidratazione - vietato perché rientra tra i cosiddetti "*plasma-expander*"; colostro - non raccomandato dalla WADA a causa della presenza di numerosi fattori di crescita nella sua composizione

INTEGRATORE IDROSALINO "CASALINGO"

- **250 ml succo di frutta**
(meglio se al 100%,
minimo 50%)
- **750 ml di acqua**
- **1 g di NaCl**

L'idratazione ottimale si ottimale sorvegliando una bevanda isotonica (200-300 mOsm/L), fresca, dal gusto gradevole e che contenga: acqua, zucchero (30-60 g) e sodio)

INTEGRATORI ENERGETICI "CASALINGHI"

La frutta essiccata è la soluzione spesso più pratica per avvalersi della frutta come fonte di energia a rapido utilizzo, soprattutto perché ne sono sufficienti piccole porzioni per ottenere un grande apporto energetico.

Può costituire la "razione d'attesa" da utilizzare tra due sedute di allenamento o due sessioni consecutive di gara.

Equivalente di un gel di maltodestrine,, il miele è ideale soprattutto per quelle discipline che prevedono allenamenti e gare di lunga durata. Può anche essere utilizzato, in alternativa alla marmellata, con pane tostato o fette biscottate nella colazione che precede l'impegno fisico.

Diversi studi dimostrano una correlazione tra l'uso di miele e la riduzione dello stato infiammatorio post-esercizio.

I biscotti leggeri (ovvero con un quantitativo di grassi inferiore almeno al 10%) sono la miglior scelta come "razione d'attesa" tra due sedute di allenamento o due sessioni consecutive di gara, poiché la quantità è facilmente modulabile e si può adattare ad esempio a quelle situazioni in cui non si conosce l'orario di inizio della competizione, poiché ad esempio, dipende dal termine delle gare precedenti.

PRIMA



DOPO



Prima e dopo

Nel corso degli anni la letteratura scientifica ha accertato e sottolineato, a più riprese, l'importanza del latte nella dieta degli sportivi;

Numerosi studi si sono concentrati sulle proprietà reidratanti di questa bevanda che risulta equivalente agli sport drink.



Dopo



Naturalmente ricco di vitamine, antiossidanti e sali minerali, il minestrone ricco è l'alimento perfetto da consumare dopo un allenamento, l'ideale per reintegrare tutto ciò di cui l'organismo ha bisogno.



**ESEMPI DI INTEGRAZIONE
IDROSALINA "CASALINGA"**

ESEMPI DI INTEGRAZIONE PROTEICA "CASALINGA"



Soluzioni ideali da sfruttare come snack dopo l'allenamento e preferibilmente nei primi 20-30 minuti immediatamente successivi alla fine dell'attività sportiva.

Un panino (50 g) e 75 g di bresaola contengono un'ottima quota di proteine ad alto valore biologico con un apporto di amminoacidi ramificati di 5,2 g (2,3 g di leucina + 1,5 g di isoleucina e 1,4 g di valina).



Pane, ricotta e miele è fonte naturale di proteine di siero del latte. Il latte con cereali integrali costituisce in un'unica soluzione "integratore proteico" e "idrico-salino". I lupini, la farina di ceci e gli "pseudo cereali" come la quinoa e l'amaranto sono le alternative vegetali con valore biologico proteico medio-alto.

Conclusioni

Usare gli alimenti giusti al posto degli integratori protegge gli sportivi e gli atleti da tre potenziali pericoli per la salute:

- abbandonare le scelte alimentari corrette ovvero quelle basate sul modello mediterraneo
- eccedere nelle dosi, facendo un uso inappropriato o smodato degli integratori oppure utilizzare prodotti contaminati da ingredienti tossici e/o vietati (doping);
- confidare, piuttosto che sulle proprie capacità, unicamente sull'aiuto di un “supporto esterno” per migliorare la prestazione sportiva e per raggiungere obiettivi di successo.