
Table of contents

■ 1. The energy production system (energy metabolisms)	1
• The aerobic and anaerobic energy systems	2
• Aerobic capacity	5
Alactic anaerobic capacity.....	6
Lactate anaerobic capacity	7
■ 2. Calculate your calorie needs	9
■ 3. Nutrition for the athletes	13
• Quantitative aspect.....	16
How much protein for an athlete?	16
• Qualitative aspect	18
Sugars, glucids or carbohydrates.....	18
Proteins	19
Fats or lipids	21
Fibers	23
Minerals	25
Vitamins	29
Water	31
Refreshment drinks.....	32
• Chronological aspect	32
How to keep fit during the summer holidays	34
■ 4. Nutrition for the mass	39
• The 10 dietary rules for gaining muscle mass.....	46
■ 5. Nutrition for strength by Andrea Angelozzi and Massimo Spattini	49
■ 6. Nutrition for endurance sports	55
• Carbohydrates.....	56
• Lipids	56
• Proteins	57
• Water and electrolytes.....	58
• The diet of the competition period.....	59
The recovery ration	60
How much should you eat?.....	63
Which foods are to be preferred?	63
• The metabolic efficiency.....	64
■ 7. Nutrition for slimming	69

8. Nutrition for concentration	
by Marco Tullio Cau	77
9. Nutrition and supplementation for vegetarian/vegan athletes	83
• Protein deficiency.....	84
• Calcium deficiency.....	84
• Iron deficiency.....	85
• Zinc deficiency.....	85
• Taurine deficiency	85
• Vitamin B12 deficiency	85
• LC-PUFA (Long Chain Polyunsaturated Fatty Acids) deficiency.....	86
• Iodine deficiency	86
• Vitamin D deficiency.....	87
10. Nutrition and supplementation for the senior athlete	89
11. Nutrition and supplementation for the diabetic sportsperson	95
12. Nutrition in bodybuilding	
by Marco Guercioni	101
• Muscle building phase (bulk phase).....	103
From Kcal to macronutrients	105
Number of meals and the protein quantity.....	107
Meal timing	107
• First, we build mass, then we lose fat (cut phase)	108
From Kcal to macronutrients	110
Meal timing	111
13. The carbohydrate refill	
by Massimo Spattini and Valeria Galfano	113
14. Nutrition and aerobic gymnastics	
by Giovanni Montagna.....	121
• Introduction	121
• Aerobics for weight loss?	122
15. Nutrition and dance	
by Alessandra Cascone e Barbara Hugonin	127
• Dancers in dance schools.....	129
The differences between the sexes during puberty	129
• Nutrition for the training of professional dancers	131
Nutrition for the competition or for the performance on stage	133
Food supplements and ergogenic aids.....	133
• Malnutrition and injuries.....	134
Low bone density and fractures.....	134
The triad of the female athlete.....	134
Relative energy deficiency in dancers	136
• Obsession with thinness and behavioral disturbances.....	136
• Nutrition for the post-injury rehabilitation	137
• Conclusions	137

■ 16. Nutrition and soccer	139
• The quantitative aspect	140
Factors to be considered with particular attention	140
• The qualitative aspect	140
How much protein for the soccer player?	141
• The chronological aspect of carbohydrate intake	141
• Water supply	142
• Soccer and supplementation	143
■ 17. Nutrition and cycling	147
■ 18. Nutrition and CrossFit	151
• The Paleodiet	152
• The Zone Diet	154
Physiological benefits for athletes entering the Zone	156
List of foods by their main macronutrient	157
The rules for entering the Zone	158
■ 19. Nutrition and swimming	
by Giovanni Montagna	163
• How many and which carbohydrates for the swimmer?	164
• How many and which fats for the swimmer?	165
• How many and which proteins for the swimmer?	168
■ 20. Nutrition and downhill skiing	169
■ 21. Nutrition and high-altitude sports	173
■ 22. Nutrition and combat sports	177
■ 23. Nutrition and supplementation for weightlifting	
by Antonio Squillante	181
■ 24. Nutrition, supplementation and training during the menstrual cycle	
by Francesco Guardato, Antonella Berardi Nazzarena and Massimo Spattini	187
• The woman today	187
• Biphasic protocol for the gynoid subject:	
diet and workout	189
Follicular phase: from the 1 st to the 14 th day of the cycle	191
Luteal phase: from the 15 th to the 28 th day of the cycle	192
• Food supplements for the gynoid subject	196
• Training for the gynoid subject	198
The follicular phase	198
The luteal phase	199
• Biphasic protocol for the android subject: diet and training	199
• Food supplements for the android subject	203
• Training for the android subject	204
■ 25. Nutrition and supplementation for the premenstrual syndrome	207
• Foods and PMS	209
• Vitamins and minerals	211

26. Nutrition and supplementation for cellulite	
by Fabrizio D'Agostino.....	213
27. Nutrition and physical activity for pregnant women	
by Fabrizio D'Agostino.....	221
• Nutritional requirements in non-pathological pregnancy.....	222
• Foods to be avoided during pregnancy.....	226
• Physical activity in pregnancy.....	227
28. Nutrition and circadian rhythms	
by Ivan Martellato and Vittoria Troianiello.....	229
• Introduction.....	229
• Central clock and peripheral clock.....	230
• Circadian misalignment.....	230
• Circadianity of the nutrition.....	231
• Optimal supplementation and circadianity.....	235
29. Intermittent fasting	237
• Fast for 12 hours a day.....	238
• Fast for 16 hours.....	238
• Fast for 2 days a week.....	239
• Fasting every other day.....	239
• 24-hour weekly fast.....	240
• Skip the meal.....	240
• The warrior's diet.....	240
• Intermittent fasting and circadian rhythms.....	241
• Intermittent fasting and weight loss.....	243
• Intermittent fasting and the physical performance.....	244
30. The ketogenic diet	
by Antonio Paoli.....	249
• Biochemical/physiological bases and applications.....	249
What is ketosis?.....	249
• What is a ketogenic diet?.....	254
• The ketogenic diet and fat loss.....	255
• Not just low insulin.....	256
• The safety of ketogenic diets.....	257
• The ketogenic diet and sports.....	259
Weight categories.....	259
The ketogenic diet and endurance performance.....	260
The ketogenic diet and strength performance.....	262
The ketogenic diet and hypertrophy.....	262
• Conclusions.....	263
31. Supplementation for strength	265
• Creatine.....	266
• Betaine.....	266
• Proteins and amino acids.....	266
• Hormonal stimulators.....	267
• Caffeine.....	267

■ 32. Supplementation for muscle mass	269
■ 33. Supplementation for endurance sports	273
• Omega-3 essential fatty acids (DHA: docosahexaenoic acid; EPA: eicosapentaenoic acid).....	274
• Magnesium.....	275
• An essential amino acids pool.....	276
• Phytonutrients and free radicals.....	277
• Carnitine.....	278
• Taurine.....	278
• Inosine.....	279
• Guarana.....	279
• Arginine.....	279
• Coenzyme Q10.....	280
• Lipoic acid.....	280
• Iron.....	281
• Caffeine.....	282
• Water.....	282
■ 34. Supplementation for slimming	283
• Lipotropics.....	284
• Thermogenics.....	285
• Coleus forskohlii.....	286
• Lipoic acid.....	287
• Replacement meals.....	287
• Multivitamin-multiminerals.....	288
• Water.....	288
■ 35. Supplementation for concentration by Marco Tullio Cau.....	289
• Caffeine.....	290
• Guarana.....	296
• Rhodiola rosea.....	299
• Tyrosine.....	303
• DMAE.....	305
• Vinpocetine.....	307
• Ginkgo biloba.....	308
■ 36. Supplementation for the immune system	311
■ 37. Pre- and post-workout supplements in the gym	317
• Pre-workout.....	317
Creatine.....	318
Beta-alanine.....	319
BCAA.....	319
Taurine.....	319
Nitric oxide (NO) stimulators.....	320
Caffeine.....	320
• Post-workout.....	321
Powdered carbohydrates.....	322

Powdered proteins.....	322
Creatine.....	323
Leucine.....	323
HMB.....	323
Betaine.....	324
Glutamine.....	324
Arginine alpha-ketoglutarate	324
■ 38. Supplementation and stress	325
• Supplements in hypercortisolism	327
• Supplements in hypocortisolism	328
■ 39. Supplementation and joints.....	331
■ 40. Supplementation and inflammation	
by Giovanni Montagna.....	335
• Which are the main substances that control inflammation?	335
• What supplements can help us to keep the chronic inflammation under control?	336
■ 41. Supplementation for the sexual performance	
by Marco Tullio Cau	339
• Nitric oxide.....	340
• Tribulus terrestris	340
• Cordyceps sinensis.....	340
• Ginkgo biloba.....	341
• DHEA.....	341
• Citrulline and arginine	342
• Pycnogenol	343
• Yohimbine.....	343
• Ginseng	345
• Icariin	345
• Peruvian maca.....	346
• Other substances	346
• Conclusions	347
■ 42. Supplementation for the heart	
by Paolo Conforti.....	349
• Vitamins.....	350
• Coenzyme Q10 (CoQ10).....	351
• Omega 3.....	351
• Beetroot juice and “NO-boosters” (arginine and citrulline).....	352
• Taurine	353
• Carnitine.....	355
• Probiotics.....	356
■ 43. Nutrition and supplementation for American football	
by Antonio Squillante	359

44. Supplements, from A to Z

by Antonio Squillante	367
• Acetyl carnitine (ALC)	368
• Acetylcysteine (NAC)	371
• Agmatine	374
• Alpha-glycerilphosphorylcholine	376
• Antioxidants	378
• Arginine	381
• Arginine alpha-ketoglutarate (AAKG) as a precursor of nitric oxide (NO)	386
• Ashwagandha (<i>Withania somnifera</i>)	390
• ATP	394
• Bacopa	396
• Beta-alanine	398
• Beta-ecdysterone	402
• Betaine	403
• Branched amino acids	406
• Caffeine	412
• Capsaicin	417
• Carnitine	420
• Carnosine	425
• Cellfood® by Giorgio Terziani	428
• Citrates	431
• Citruline	434
• Citrus aurantium	438
• Coenzyme Q10	441
• Colostrum	445
• Conjugated linoleic acid (CLA)	448
• Cordyceps sinensis	450
• Creatine	453
• Cyclodextrins	459
• D-aspartic acid	461
• DHEA (dehydroepiandrosterone)	462
• DMAA	465
• DMAE	467
• DMG	469
• Echinacea	472
• Eleuterococcus	473
• Ephedrine/Ma Huang/pseudoephedrine	476
• Essential amino acids	478
• Exogenous ketones	481
• Fenugreek	484
• Forskolin (<i>Coleus forskholii</i>)	486
• Fucoxanthin	488
• GABA	489
• Ginkgo biloba	491
• Glucosamine and chondroitin sulfate	492
• Glutamine	495
• Glutathione	499
• Glycerol	501
• Green tea	504

- Guarana..... 506
- HMB..... 508
- 7-Keto-DHEA..... 510
- KIC: alpha-ketoisocaproic acid 512
- L-alanyl-L-glutamine..... 514
- Leucine..... 516
- Lipoic acid (ALA)..... 519
- Magnesium..... 523
- Maltodextrin 528
- MCT 530
- Melatonin..... 533
- Mucuna 538
- NAD⁺/NADH..... 540
- Omega 3..... 544
- Ornithine 552
- Panax ginseng 554
- Phosphatidic acid 557
- Phosphatidylserine..... 560
- Pycnogenol..... 562
- Probiotics..... 566
- Protein powder 570
- Reishi (*Ganoderma lucidum*) 583
- *Rhodiola rosea* 587
- Ribose..... 592
- SAM-e (S-Adenosyl-Methionine)..... 594
- Sodium bicarbonate..... 596
- Super-amide 598
- Taurine 601
- *Tribulus terrestris* 603
- Turmeric (*Curcuma longa*) 604
- Tyrosine..... 609
- Vitamin C 612
- Vitamin D 614
- Vitargo® 619
- Waxy maize (waxy corn starch)..... 621
- Yohimbine..... 623
- ZMA 625

Acknowledgments 629

Note: References are available at www.massimospattini.com into “Books” section.