

Index

Note: Page numbers of article titles are in **boldface** type.

A

- Adolescents, increase in type 2 diabetes in, 480
- Albuminuria, and neuropathy, exercise in, 435
- Arterial disease, peripheral, tests for, to assess risk of silent myocardial ischemia, 382
- Arthritis, obesity and, 444–445
- Athlete(s), diabetes in, evaluation of, before exercise, 426–427
 - hyperglycemic emergencies in, **469–478**
 - prevention of, 475
 - nutritional myths and, 485
 - with diabetes, daily management of, **479–495**
 - education of, 486
 - evaluation of, before exercise, 426–427
 - exercise considerations in, 479–482
 - fluids and electrolytes for, 485–486
 - hypoglycemia in, **455–468**
 - on field management of, 490
 - incretin potentiators for, 490
 - insulin for, 457–458, 489
 - monitoring glucose levels in, 463–465
 - nutritional considerations for, 483–486
 - pharmacologic therapies for, 457–463, 489–490
 - screening for coronary artery disease in, 426
 - travel by, diabetic supplies for, 476–477
 - type 1, management of, 486–487
 - type 2, management of, 488
 - with obesity and diabetes, common injuries in, **441–453**

B

- Basal-bolus insulin therapy, 459
- Blunt trauma, obesity and, 445
- Bone mineral density, and obesity, 445

C

- Carbohydrate-absorption blockers, for diabetic athletes, 490
- Carbohydrates, and insulin, adjustment of, for exercise, 484
 - intake of, in diabetes, after exercise, 484
 - before exercise, 483–484
 - during exercise, 484
- Cardiology screening, pre-exercise, guidelines for, in asymptomatic patients with diabetes, **379–392**

- Cardiorespiratory exercise prescription, duration and intensity of exercise in, 430–431
 - exercise mode in, 431
 - exercise progression in, 431
 - frequency of exercise in, 431
 - specificity of training in, 431–432
- Cardiovascular disease, and diabetes, 364
- Carpal tunnel syndrome, obesity and, 444
- Cartilage injury, in diabetes, 447
- Community resources, crime, and physical activity, 361–362
- Computed tomography, electron beam, to assess risk of silent myocardial ischemia, 386
- Coronary artery disease, in diabetes, 379
 - screening for, in athlete, 426

D

- Diabetes, and exercise, 470–471
 - and obesity, athletes with, common injuries in, **441–453**
 - development in childhood, socioeconomic factors in, **349–378**
 - in children, physical activity and, 356–362
 - solutions to improve, 367–371
 - in children and adolescents, exercise in prevention of, **393–421**
 - asymptomatic patients with, pre-exercise cardiology screening guidelines for, **379–392**
 - athletes with, daily management of, **479–495**
 - education of, 486
 - evaluation of, before exercise, 426–427
 - exercise considerations in, 479–482
 - fluids and electrolytes for, 485–486
 - hypoglycemia in, **455–468**
 - on field management of, 490
 - incretin potentiators for, 490
 - insulin for, 457–458, 489
 - monitoring glucose levels in, 463–465
 - nutritional considerations for, 483–486
 - pharmacologic therapies for, 457–463, 489–490
 - screening for coronary artery disease in, 426
 - travel by, diabetic supplies for, 476–477
 - cardiovascular disease and, 364
 - caring for, health insurance and, 367, 371
 - socioeconomic disparities in, 366–367
 - chronic management of, hemoglobin A_{1c} levels in, 465, 475
 - classification of, 423–424, 469, 480
 - complications of, on-field management of, 490
 - coronary artery disease in, 379
 - screening for, in athlete, 426
 - decreased physical activity and, 358
 - development of, increased risk for, socioeconomics and, 365–366
 - diagnosis of, 424–426
 - in asymptomatic individuals, 425–426
 - epidemiology of, 469
 - exercise as intervention in, 441
 - in children, prevalence and incidence of, 363
 - socioeconomics of, 362–367

- in minority populations, 365
- less common forms of, 424
- management of, benefits of regular exercise in, 432–435
 - clinical interventions to improve, 423
- musculoskeletal injuries in, 441, 446–448
- or insulin resistance prevention in children, 403–406
- physical problems associated with, 441
- pre-exercise screening in, 381
- prevention and care of, in children, solution to improving, 370
- prevention of, in adults, studies of, 397–401
- type 1, 423–424
 - and type 2, exercise in management of, **423–439**
 - athletes with, management of, 486–487
 - postexercise, 488
 - blood glucose control in, 486–487
 - complications of, 446
 - exercise considerations in, 482
 - exercise in, 433
 - in active children, management of, 488
 - in children, 363
 - versus type 2, 469–470, 480
- type 2, 424
 - athletes with, management of, 488
 - complications of, 446
 - exercise considerations in, 480, 482
 - exercise in, 433
 - in children, 363–364
 - increase in adolescents, 480
 - silent myocardial ischemia in, epidemiology of, 380
 - testing for, in adults, 426
- Diabetic ketoacidosis, acute hyperglucemia and, 471, 472
 - clinical features of, 472–473
 - pathogenesis of, 472
 - treatment of, 473–475
 - timeline for, 474
- Diabetic supplies, for travel by athletes, 476–477
- Diet, childhood obesity and, 402
- Dyslipidemia, exercise in, 435

E

- ECG, exercise, to assess risk of silent myocardial ischemia, 383–385
- Echocardiography, stress, to assess risk of silent myocardial ischemia, 385
- Electrolytes, fluids and, for diabetic athletes, 485–486
- Electron beam computed tomography, to assess risk of silent myocardial ischemia, 386
- Environmental factors, and obesity, 402–403
- Exercise, adjustment of carbohydrates and insulin for, 484
 - as intervention in diabetes, 441
 - carbohydrate intake after, in diabetes, 484
 - carbohydrate intake before, in diabetes, 483–484
 - carbohydrate intake during, in diabetes, 484
 - diabetes and, 470–471

Exercise (continued)

- evaluation of diabetes in athlete before, 426–427
 - for athletes with diabetes, 479–482
 - high-intensity, glucose as fuel in, 481
 - in prevention of obesity and diabetes in children and adolescents, **393–421**
 - in type 1 and type 2 diabetes management, **423–439**
 - in type 1 diabetes, 482
 - in type 2 diabetes, 480, 482
 - insulin levels following, 481–482
 - normal glucoregulation during, 480–482
 - postexercise requirements for athletes with type 1 diabetes, 488
 - regular, benefits of, in diabetes management, 432–435
- Exercise ECG, to assess risk of silent myocardial ischemia, 383–385
- Exercise-induced hypoglycemia, nutritional prevention of, 484–485
- Exercise prescription, cardiorespiratory. See *Cardiorespiratory exercise prescription*.
- for diabetic individuals, 432–435
 - guidelines for, in adults, 428
 - with chronic medical conditions, 429
 - with disabilities, 429
 - in children, 427–428
 - in older adults, 428
 - principles of, 429–432
 - resistance, 432
- Exercise testing, for adults, 427
- for children, 427

F

- Family-based obesity-prevention trials, in children, 406–408
- Fluids, and electrolytes, for diabetic athletes, 485–486
- Food(s), away from home, spending on, 354–355
 - calorie-dense processed, marketed to children, 353–354
 - changes in, and nutrition causing obesity, 352–354
 - in school cafeterias, 354–355
 - offered by stores in various neighborhoods, 354
- Food environment, shifts in US, nutrition and, 350–351
- Foot and hand disorders, in diabetes, 447
- Fractures, obesity and, 445
 - risk of, osteoporosis and, in diabetes, 447

G

- Glucagon emergency kits, 466
- Glucoregulation, normal, during exercise, 480–482
- Glucose, blood, control of, in type 1 diabetes, 486–487
 - insulin pumps and, 487–488
 - hepatic sources of, 481
 - levels of, factors affecting, hypoglycemia and, 455
 - monitoring of, in diabetic athlete, 463–465
 - transport of, and use of, in health and in diabetes, 457
- Glucose monitoring, capillary, 463–464
- Glucose monitors, continuous, 464
- Glycemic control, tests for, to assess risk of silent myocardial ischemia, 382

H

- Hand and foot disorders, in diabetes, 447
- Health insurance, and diabetes care, 367, 371
- Hemoglobin A_{1c} levels, in chronic management of diabetes, 465, 475
- Hyperglycemia, acute, and diabetic ketoacidosis, 471, 472
 - exercise and, 433
 - in exercising athlete, 470–471
 - management of, 491–492
- Hyperglycemic emergencies, in athletes, **469–478**
 - prevention of, 475
- Hypertension, exercise in, 434
- Hypoglycemia, acute, management of, 491
 - counter-regulatory response to, conditions affecting, 456
 - exercise and, 433–434
 - exercise-induced, nutritional prevention of, 484–485
 - factors affecting glucose levels and, 455
 - in athletes with diabetes, **455–468**
 - on-field management of, 490
 - late-onset postexercise, 491
 - mild, treatment of, 465
 - prevention of development of, 456, 490–491
 - severe, treatment of, 465–466
 - symptoms and signs of, 455–456

I

- Incretin potentiators, for diabetic athletes, 490
- Incretins, 462
- Infection, following surgery, in diabetes, 448
- Insulin, analogs to, 458
 - and carbohydrates, adjustment of, for exercise, 484
 - continuous subcutaneous infusion of, 459–462
 - precautions in use of, 476
 - for diabetic athletes, 457–458, 489
 - levels of, following exercise, 481–482
- Insulin pump therapy, 459–462
 - precautions in use of, 476
- Insulin pumps, and blood glucose control, 487–488
- Insulin resistance, or diabetes, prevention in children, 403–406
- Insulin secretagogues, 489
- Insulin sensitizers, 489
- Insulin therapy, basal-bolus, 459

K

- Ketoacidosis. *See Diabetic ketoacidosis.*

L

- Low back pain, in obesity, 445

M

- Metabolic syndrome, and risks of childhood obesity, 401
- Microalbuminuria, tests for, to assess risk of silent myocardial ischemia, 382
- Musculoskeletal complications, in diabetics, 447–448
- Musculoskeletal injuries, development of, childhood obesity and, 443
 - in diabetes, 441, 446–448
 - in obesity, 441, 442–445
- Myocardial ischemia, silent, bedside tests for, 382–383
 - early diagnosis of, benefits of, 380–381
 - epidemiology of, in type 2 diabetes, 380
 - evaluation and testing for, 381–386
 - in diabetes, 379–380
 - laboratory tests for, 381
 - patients at risk for, identification of, 381
 - recommended testing algorithm for, 386
 - screening for, economics of, 386–387
- Myocardial perfusion scanning, to assess risk of silent myocardial ischemia, 385–386

N

- Neuropathy, and albuminuria, exercise in, 435
 - autonomic, exercise in, 435
 - tests for, to assess risk of silent myocardial ischemia, 382–383
 - peripheral, exercise in, 435
- Nutrients, balance of, for peak athletic performance, 483
 - timing and types of, for peak athletic performance, 483–485
- Nutrition, and changes in food causing obesity, 352–354
 - and socioeconomic differences in obesity rates, 351–352
 - childhood, approaches for improving, 367–369
 - for athletes with diabetes, 483–486
 - in prevention of exercise-induced hypoglycemia, 484–485
 - labor force participation of women and, 352–353
 - shifts in US food environment and, 350–351
 - socioeconomic discrepancies in, 350–356
- Nutritional myths, athletes and, 485

O

- Obesity, adolescent, trends in, 350
 - and arthritis, 444–445
 - and diabetes, athletes with, common injuries in, **441–453**
 - development in childhood, socioeconomic factors in, **349–378**
 - in children, and in adolescents, exercise in prevention of, **393–421**
 - physical activity and, 356–362
 - solutions to improve, 367–371
 - and overuse syndromes, 443–444
 - childhood, decreased physical activity and, 358
 - definition of, 401–402
 - development of musculoskeletal injuries and, 441, 442–445
 - factors contributing to, 402–403

- rates of, socioeconomic status and, 349–350
 - risks of, and metabolic syndrome, 401
 - trends in, 349, 350
 - demographics, morbidity, and cost of, 442
 - global prevalence of, 395, 396
 - low back pain and, 445
 - musculoskeletal injuries in, 441, 442–445
 - nutrition and changes in food causing, 352–354
 - osteoarthritis in, 444–445
 - physical problems associated with, 441
 - predisposition to disease in, 393–394
 - prevalence of, 394–395
 - prevention of, in adults, 395–397
 - rates of, socioeconomic differences in, nutrition and, 351–352
 - trends in, 394–395
- Obesity-prevention trials, family-based, in children, 406–408
- school-based, in children, 408–417
 - data from, 413–416
- Oral agents, for use in type 2 diabetes, 462–463
- Osteoarthritis, in obesity, 444–445
- Osteoporosis, and fracture risk, in diabetes, 447
- Overuse syndromes, obesity and, 443–444
- Overweight trends, for children, 394, 395

P

- Pharmacologic therapies, for athletes with diabetes, 457–463, 489–490
- Physical activity, and obesity and diabetes, in children, 356–362
- community resources, and crime, 361–362
 - decreased, and childhood obesity, 357–358
 - and diabetes, 358
 - in children, approaches to increasing, 369–370
 - in children and adolescents, 356, 357
 - low levels of, and poor health/behavior choices, 359
 - minority and low-socioeconomic populations and, 359–360
 - of children, physical activity of parents and, 362
 - safe, guidelines for, 429
- Pre-exercise screening, in diabetes, 381
- Prediabetes, diagnosis of, 425
- in asymptomatic individuals, 425–426
 - testing for, in adults, 426

R

- Resistance exercise prescription, 432
- Retinopathy, exercise in, 434–435

S

- School, transportation to, obesity and, 402–403
- School-based obesity-prevention trials, in children, 408–417
- data from, 413–416
- School cafeterias, foods in, 354–355

Sedentary behaviors, minority groups and, 360

Socioeconomic factors, in development of obesity and diabetes in childhood, **349–378**

Soft drinks, sold in schools, 355

 versus milk consumed by children, 355

Stress echocardiography, to assess risk of silent myocardial ischemia, 385

T

Tendinopathies, in diabetics, 446–447

 obesity and, 443

Trauma, blunt, obesity and, 445