Index

absolute exercise intensity 132
acanthosis nigricans (AN) 257, 260
acarbose 188
accidents 289–90
ACCOMPLISH trial 168
ACE inhibitors 166–9, 195–6
ACSM see American College of Sports Medicine
ACTH see adrenocorticotropic hormone
adiponectin 56–7
adipose tissue
  cardiovascular disease 151–2
dietary factors 90
  as endocrine organ 54–9
  overflow hypothesis 309
adipose tissue macrophages (ATMs) 60–1
adiposity
  epidemiological studies 1, 5
  ethnicity 299–300, 303
ADNFS see Allied Dunbar National Fitness Survey
adolescents see childhood diabetes
ADOPT study 187, 189
adoption studies 17
adrenocorticotropic hormone (ACTH) 252, 254–5
ADVANCE trial 168
advanced glycation end products
  (AGEs) 161, 164–5
AHA see American Heart Association
ALLHAT trial 167, 173
Allied Dunbar National Fitness Survey
  (ADNFS) 135
American Cancer Society 152
American College of Sports Medicine
  (ACSM) 127–8, 134–7, 141
American Diabetes Association 141, 239
American Diabetes Prevention Program 237
American Heart Association (AHA) 127, 136, 230
American Society for Reproductive Medicine
  (ARMS) 247–8
5’-AMP-activated protein kinase
  (AMPK) 55–6
AN see acanthosis nigricans
Androgen Excess Society 247–8
androgens 247–9, 254–5, 262–3
angiotensin II 151
angiotensin II receptor blockers
  (ARBs) 168–9
antiandrogens 263
antidepressants 196–7
antipsychotics 196–7
APPLES study 235
ARBs see angiotensin II receptor blockers
ARMS see American Society for Reproductive Medicine
ASCOT trial 167–8
association studies 25
ASTEROID study 172–3
atherosclerosis
  ethnicity 306
  insulin resistance 156, 160
  obesity 151–2
  polycystic ovary syndrome 258–9
  type 2 diabetes mellitus 165
Atkins Diet 93–4
ATMs see adipose tissue macrophages
attractiveness 292–3
autonomic neuropathy 138

β-blockers 196
β-cells 54, 74, 256–7
Bardet–Biedl syndrome (BBS) 15, 17, 21–2, 226
BARI see Bypass Angioplasty Revascularisation Investigation
bariatric surgery see metabolic surgery
basal metabolic rate (BMR) 129, 130
BBS see Bardet–Biedl syndrome
behaviour modification 103–24
cognitive restructuring 108, 111
combination treatments 113–16
dietary factors 104–5, 106, 113–16
drug therapies 115–16
environmental factors 107–8, 110
goal setting 107–9
liquid meal replacements 115
motivational readiness 105–6
obesity 103–24
patient expectations 106
physical activity 104, 106, 110, 113, 142
primary care 280–1
problem solving 108, 110–11
relapse prevention 106, 112–13
self-monitoring 107, 109
social support 111–12
stimulus control/cues 107, 109–10
strategies 106–13
toxic environment 104–5
type 2 diabetes mellitus 280–1
very low calorie diets 114–15
weight loss 104, 106–14
benign intercranial hypertension 227–8
beta-cells 54, 70, 256–7
biliopancreatic diversions (BPD) 206–8, 210–15
bioelectrical impedance 14
blood pressure 129
see also hypertension
Blount’s disease 228
BMI see body mass index
BMR see basal metabolic rate
body mass index (BMI)
behaviour modification 103–4, 115
cardiovascular disease 151–4
childhood obesity 222–4, 227, 235, 237–8
dietary factors 87–8, 90
drug therapies 195
epidemiological studies 1–2, 4, 6–8
ethnicity 299–306, 309–10
genetics 14
insulin resistance 156
metabolic surgery 203–4, 215
mortality 152
occupational health 286–91
pathophysiology 60
physical activity 130, 135
polycystic ovary syndrome 257–62
primary care 277–8
type 2 diabetes mellitus 67–70, 72, 77–9, 159
Bogalusa Heart Study 229–30
BPD see biliopancreatic diversions
British Regional Heart Study 7
Bypass Angioplasty Revascularisation Investigation (BARI) 164–5
C-reactive protein (CRP) 160, 162
CABG see coronary artery bypass grafting
CAC see coronary artery calcification
calcium channel blockers 167, 196
candidate gene approach 18–22
monogenic obesity 17, 19–22
physiological function 18–19
syndromic obesity 19–22
captopril 166
carbohydrates, dietary 93–6
cardiometabolic syndrome 151
cardiomyopathy 153
cardiovascular disease (CVD)
behaviour modification 105
childhood obesity 229–30
co-morbidities 151–2
ethnicity 299–300, 306, 308
insulin resistance 158–62
intervention studies 73
obesity 151–4
physical activity 130
CARDS study 173
CARE trial 171, 173
Carnegie International Camp 142
CHD see coronary heart disease
childhood obesity 221–45
cardiovascular disease 229–30
complications 234
dietary factors 236–7
drug therapies 237, 239
environmental factors 225–6
epidemiological studies 5–9, 231–4
ethnicity 231
gastrointestinal effects 227–8
genetics 226, 234
growth velocity 221–2
gynaecological effects 227–8
lifestyle 35
management 234–9
measurements 222–3
metabolic surgery 238
neurological effects 227–8
orthopaedic effects 227–8
pathological causes 225, 226
physical activity 136, 139–40, 236–7
prevalence and demographics 223–5
psychological effects 227, 229
renal effects 229
respiratory effects 227, 229
type 2 diabetes mellitus 5, 7–9, 227, 230–4, 239
cholesterol
drug therapies 186, 193
ethnicity 301, 303, 305, 310
management 171–4
metabolic syndrome 156–7
obesity 155–7
polycystic ovary syndrome 257–8
type 2 diabetes mellitus 163
see also dyslipidaemia
Cochrane reviews 234–6
cognitive restructuring 108, 111
Cohen syndrome 226
combination treatments 113–16
common soil hypothesis 308
community dietitians 276–7
computed tomography (CT) 14
coronary artery bypass grafting (CABG) 165
coronary artery calcification (CAC) 259
coronary heart disease (CHD)
dyslipidaemia 155–6, 162–3, 170–4
ethnicity 305–6, 309–10
insulin resistance 157–8, 160
obesity 153–4
physical activity 129–30
polycystic ovary syndrome 258
type 2 diabetes mellitus 163–6
critical visceral adipose tissue threshold
(CVATT) 52–3
CRP see C-reactive protein
CT see computed tomography
Cushing’s syndrome 58, 226
CVATT see critical visceral adipose tissue threshold
CVD see cardiovascular disease
Da-Qing study 72–3, 79
DAG see diacylglycerol
Danish Diet, Cancer and Health Study 154
DART trial 170
DETAIL study 169
DEXA see dual energy X-ray absorbiometry
Diabetes Intervention Study 163
Diabetes Prevention Program (DPP) 75–6, 77, 79–80
Diabetes Prevention Study (DPS) 73–5, 77, 80
diacylglycerol (DAG) 53
DIAS study 174
dietary factors
behaviour modification 104–5, 106, 113–16
childhood obesity 236–7
dietary patterns 38
drug therapies 88–9
energy density 33–5, 41–2
energy intake 33–8
environmental impacts 40
epidemiological studies 7–8, 34–5
failure of therapy 92–3
food-based therapies 87–101
insulin resistance 90–1
intervention studies 72–3, 76–7
liquid meal replacements 115
meal replacement therapy 96–7
metabolic surgery 210–11
dietary factors (Continued)
metabolic syndrome 90–1
nutrient composition 90–2, 93–6
polycystic ovary syndrome 256
portion size 36–7, 40
prescription 92
primary care 275–7
snacking 37
sugar-rich drinks 35–6
target setting 89
type 2 diabetes mellitus 68, 87–8, 90–4,
275–7
very low calorie diets 97–8, 114–15
weight loss 88–9, 92–3
DIGAMI studies 165–6
dipeptidylpeptidase IV (DPP-IV)
inhibitors 186–8, 189–90
Disability Discrimination Act 291–2
disability pensions 289
discrimination 291–4
DPP see Diabetes Prevention Program
DPP-IV see dipeptidylpeptidase IV
DPS see Diabetes Prevention Study
drug therapies 185–202
behaviour modification 115–16
childhood obesity 237, 239
dietary factors 88–9
dyslipidaemia 170–4, 196
hyperglycaemia 185–91
hypertension 166–70, 195–6
intervention studies 76, 78–9
obesity 185, 191–5
polycystic ovary syndrome 249, 261–3
primary care 274, 281–2
type 2 diabetes mellitus 185–202, 274,
281–2
weight gain 196–7
weight loss 196
DS see duodenal switch
dual energy X-ray absorbimetry (DEXA) 14
duodenal switch (DS) procedures 207–8,
210–15
dyslipidaemia
drug therapies 196
management 170–4
obesity 151, 155–6
pathophysiology 47–8
polycystic ovary syndrome 257–9
type 2 diabetes mellitus 162–3
ectopic fat storage hypothesis 52–3
Ely Study (MRC) 32
employment see occupational health
endothelial dysfunction 259–60
energy
balance 31–2, 39, 41, 90
density 33–5, 41–2, 68
expenditure 130–5
intake 33–8
environmental factors
behaviour modification 107–8, 110
childhood obesity 225–6
lifestyle 39–40
epidemiological studies 1–12
assessment of obesity 1–2
cardiovascular disease 152–4
childhood obesity 5, 7–9, 231–4
classification of obesity 2, 6
diabetes and obesity links 3–9
dietary factors 7–8, 34–5
dyslipidaemia 155–6, 163
ethnicity 3, 4–5
hypertension 154–5, 163
insulin resistance 158
lifestyle 4–5, 7, 34–5
modifying factors 5–8
prevalence of obesity 2–3
self-reported data 3
ergonomics 290–1
ESHRE see European Society for Human
Reproduction
ethnicity 299–315
adipose tissue overflow hypothesis 309
adiposity 299–300, 303
afro-origin groups 305
cardiovascular disease 299–300
childhood obesity 231
common soil hypothesis 308
epidemiological studies 3, 4–5
genetics 21
indoasians 300–2
insulin resistance 154–5, 157, 160, 299,
301, 309
metabolic risk 301, 303–7
<table>
<thead>
<tr>
<th>Term</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>health promotion</td>
<td>294–5</td>
</tr>
<tr>
<td>Health Survey for England</td>
<td>31, 126</td>
</tr>
<tr>
<td>heart rate</td>
<td>133–5</td>
</tr>
<tr>
<td>hepatic glucose production (HGP)</td>
<td>50, 55</td>
</tr>
<tr>
<td>heritability</td>
<td>*see genetics</td>
</tr>
<tr>
<td>HGP *see hepatic glucose production</td>
<td></td>
</tr>
<tr>
<td>high density lipoproteins (HDLs)</td>
<td>94</td>
</tr>
<tr>
<td>dietary factors</td>
<td>193–4</td>
</tr>
<tr>
<td>drug therapies</td>
<td>160</td>
</tr>
<tr>
<td>ethnicity</td>
<td>301, 303, 305, 310</td>
</tr>
<tr>
<td>insulin resistance</td>
<td>160</td>
</tr>
<tr>
<td>management</td>
<td>170–4</td>
</tr>
<tr>
<td>metabolic syndrome</td>
<td>156–7</td>
</tr>
<tr>
<td>obesity</td>
<td>155–7</td>
</tr>
<tr>
<td>polycystic ovary syndrome</td>
<td>257–8, 261</td>
</tr>
<tr>
<td>type 2 diabetes mellitus</td>
<td>163</td>
</tr>
<tr>
<td>HOPE study</td>
<td>166–7</td>
</tr>
<tr>
<td>hormone sensitive lipase (HSL)</td>
<td>53</td>
</tr>
<tr>
<td>HOT study</td>
<td>167</td>
</tr>
<tr>
<td>11β-HSD-1</td>
<td>59, 62</td>
</tr>
<tr>
<td>HSL *see hormone sensitive lipase</td>
<td></td>
</tr>
<tr>
<td>hyperglycaemia</td>
<td>185–91</td>
</tr>
<tr>
<td>drug therapies</td>
<td>160–1</td>
</tr>
<tr>
<td>maternal</td>
<td>9</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>209</td>
</tr>
<tr>
<td>pathophysiology</td>
<td>47–8, 50–2</td>
</tr>
<tr>
<td>postprandial</td>
<td>70</td>
</tr>
<tr>
<td>primary care</td>
<td>275</td>
</tr>
<tr>
<td>type 2 diabetes mellitus</td>
<td>165</td>
</tr>
<tr>
<td>hyperinsulinaemia</td>
<td>211</td>
</tr>
<tr>
<td>cardiovascular disease</td>
<td>159–60</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>211</td>
</tr>
<tr>
<td>obesity</td>
<td>154</td>
</tr>
<tr>
<td>polycystic ovary syndrome</td>
<td>249, 257</td>
</tr>
<tr>
<td>type 2 diabetes mellitus</td>
<td>162, 164</td>
</tr>
<tr>
<td>hypertension</td>
<td>227–8</td>
</tr>
<tr>
<td>childhood obesity</td>
<td>195–6</td>
</tr>
<tr>
<td>drug therapies</td>
<td>303, 306, 310</td>
</tr>
<tr>
<td>management</td>
<td>166–70</td>
</tr>
<tr>
<td>obesity</td>
<td>154–5</td>
</tr>
<tr>
<td>type 2 diabetes mellitus</td>
<td>163–4</td>
</tr>
<tr>
<td>hypoglycaemia</td>
<td>189</td>
</tr>
<tr>
<td>drug therapies</td>
<td>209</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td></td>
</tr>
<tr>
<td>diabetes mellitus</td>
<td>160–1</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>211, 213–14</td>
</tr>
<tr>
<td>metabolic syndrome</td>
<td>156–9</td>
</tr>
<tr>
<td>obesity</td>
<td>151, 156–9</td>
</tr>
<tr>
<td>hypoglycaemia</td>
<td>189</td>
</tr>
<tr>
<td>drug therapies</td>
<td>209</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>211, 213–14</td>
</tr>
<tr>
<td>hypothyroidism</td>
<td>226</td>
</tr>
<tr>
<td>IDEA study</td>
<td>151, 153</td>
</tr>
<tr>
<td>IDEAL study</td>
<td>171–2</td>
</tr>
<tr>
<td>IDF *see International Diabetes Federation</td>
<td></td>
</tr>
<tr>
<td>IDPP *see Indian Diabetes Prevention Program</td>
<td></td>
</tr>
<tr>
<td>IGF *see insulin-like growth factor</td>
<td></td>
</tr>
<tr>
<td>IGT *see impaired glucose tolerance</td>
<td></td>
</tr>
<tr>
<td>IKK-β</td>
<td>61–2</td>
</tr>
<tr>
<td>IL *see interleukins</td>
<td></td>
</tr>
<tr>
<td>impaired glucose tolerance (IGT)</td>
<td></td>
</tr>
<tr>
<td>childhood obesity</td>
<td>237</td>
</tr>
<tr>
<td>intervention studies</td>
<td>71–3, 75, 77–80</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>209</td>
</tr>
<tr>
<td>physical activity</td>
<td>128–9, 140</td>
</tr>
<tr>
<td>polycystic ovary syndrome</td>
<td>257</td>
</tr>
<tr>
<td>type 2 diabetes mellitus</td>
<td>70</td>
</tr>
<tr>
<td>incretins</td>
<td>189–90</td>
</tr>
<tr>
<td>Indian Diabetes Prevention Program</td>
<td>76</td>
</tr>
<tr>
<td>infertility</td>
<td>260</td>
</tr>
<tr>
<td>inflammatory pathways</td>
<td>59–62</td>
</tr>
<tr>
<td>insulin</td>
<td></td>
</tr>
<tr>
<td>dietary factors</td>
<td>88–9</td>
</tr>
<tr>
<td>pathophysiology</td>
<td>50</td>
</tr>
<tr>
<td>physical activity</td>
<td>129</td>
</tr>
<tr>
<td>therapy</td>
<td>191</td>
</tr>
<tr>
<td>insulin-dependent diabetes *see type 1 diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td>insulin-independent diabetes *see type 2 diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td>insulin-like growth factor (IGF)</td>
<td>252–3</td>
</tr>
<tr>
<td>insulin resistance</td>
<td></td>
</tr>
<tr>
<td>cardiovascular disease</td>
<td>158–62</td>
</tr>
<tr>
<td>dietary factors</td>
<td>90–1</td>
</tr>
<tr>
<td>dyslipidaemia</td>
<td>155</td>
</tr>
<tr>
<td>epidemiological studies</td>
<td>9</td>
</tr>
<tr>
<td>ethnicity</td>
<td>299, 301, 309</td>
</tr>
<tr>
<td>hyperglycaemia</td>
<td>160–1</td>
</tr>
<tr>
<td>metabolic surgery</td>
<td>211, 213–14</td>
</tr>
<tr>
<td>metabolic syndrome</td>
<td>156–9</td>
</tr>
<tr>
<td>obesity</td>
<td>151, 156–9</td>
</tr>
<tr>
<td>pathophysiology</td>
<td>52–4, 56–8, 61–2</td>
</tr>
</tbody>
</table>
INDEX

323

energy intake 33–8
environmental factors 39–40
epidemiological studies 4–5, 7, 34–5
Finnish Diabetes Prevention Study 73–5, 77, 80
Indian Diabetes Prevention Program 76
integrated analysis 38–40
intervention studies 71–7
Japanese Prevention Trial 76–7
Malmö feasibility study 71–2
polycystic ovary syndrome 257–8
type 2 diabetes mellitus 163

low density lipoproteins (LDLs)
dietary factors 94
drug therapies 186, 193
ethnicity 301
management 170–4
obesity 155–6
polycystic ovary syndrome 257–8
type 2 diabetes mellitus 163

low-carbohydrate diets 93–6
LPL see lipoprotein lipase
luteinizing hormone (LH) 252, 255–6, 261, 263

McKusick–Kaufman syndrome (MKKS) 21
macrovascular complications 234
magnetic resonance imaging (MRI) 14
major recessive genes 17–18
malabsorptive surgical procedures 206–8, 210–15
Malmö feasibility study 71–2
MAPK see mitogen-activated protein kinase

INDEX
INDEX

maternal hyperglycaemia 9
meal replacement therapy 96–7
Medical Research Council (MRC) 32
medical standards 291
menstrual abnormalities 260
metabolic surgery 203–20
childhood obesity 238
dietary factors 210–11
efficacy 208–9
glycaemic control 209–10, 212
hyperglycaemia 209
hyperinsulinaemia 211
hypoglycaemia 209
insulin resistance 211, 213–14
malabsorptive procedures 206–8, 210–11
obesity 203–4, 215
restrictive surgical procedures 204–8, 210–11
surgical techniques 204–8, 210–11
type 2 diabetes mellitus 203–20
weight loss 204–8
metabolic syndrome 90–1
definitions 156–7
ethnicity 307–8
insulin resistance 156–9
physical activity 128
polycystic ovary syndrome 248
metformin
childhood obesity 239
hyperglycaemia 186–7, 191, 193
lifestyle 76
polycystic ovary syndrome 261–2
primary care 274, 281–2
METs 130–1, 133
MI see motivational interviewing; myocardial infarction
microvascular complications 234
migration studies 309
MIRACL study 172
mitogen-activated protein kinase (MAPK) 162
MKKS see McKusick–Kaufman syndrome
MONICA project 2, 69
monogenic obesity 17, 19–22
morbid obesity 203
mortality studies
insulin resistance 158

obesity 152–4
motivational interviewing (MI) 105–6
motivational readiness 105–6
MRC see Medical Research Council
MRFIT see Multiple Risk Factor Intervention Trial
MRI see magnetic resonance imaging
Multiple Risk Factor Intervention Trial (MRFIT) 155
myocardial infarction (MI) 170, 172, 174

NAFLD see non-alcoholic fatty liver disease
National Cholesterol Education Programme 156
National Health and Nutrition Examination Survey (NHANES) 2–3, 4, 69, 157
National Institute for Clinical Excellence (NICE) 223, 237, 281
National Institutes of Child Health and Human Development (NICHHD) 247
National Institutes of Health (NIH) 115–16, 152, 247–8, 250
National Weight Control Registry (NWCR) 112–13, 139
NEFAs see non-esterified fatty acids
nephropathy 138
neuropathy 138
NHANES see National Health and Nutrition Examination Survey
NICE see National Institute for Clinical Excellence
NICHHD see National Institutes of Child Health and Human Development
NIH see National Institutes of Health
nitric oxide (NO)
cardiovascular disease 160–1
hypertension 154
obesity-induced T2DM 51–2, 53
non-alcoholic fatty liver disease (NAFLD) 53, 227–8
non-esterified fatty acids (NEFAs) 48–9, 54, 56–60
non-sulfonylurea insulin secretagogues 188
Nurses’ Health Study 6, 152–4, 258
nutrient composition 90–2, 93–6
NWCR see National Weight Control Registry
INDEX

INDEX

obesity 1–2
atherosclerosis 151–2
behaviour modification 103–24
cardiovascular disease 151–4
cholesterol 155–7
classification 2, 6
coronary heart disease 153–4
drug therapies 185, 191–5
dyslipidaemia 151, 155–6
ethnicity 299–315
hyperinsulinaemia 154
hypertension 151, 154–5
insulin resistance 151, 156–9
metabolic surgery 203–4, 215
monogenic 17, 19–22
mortality studies 152–4
occupational health 285–97
polycystic ovary syndrome 247–71
prevalence 2–3, 273, 300–3
primary care 273, 275, 281–2
syndromic 15, 17, 19–22
see also childhood obesity
obstructive sleep apnoea (OSA) 227, 229, 289
occupational health 285–97
accidents 289–90
disability pensions 289
discrimination 291–4
effects of health on work 287–90
effects of work on health 286–7
ergonomics 290–1
fitness for work 290–1
health promotion 294–5
medical standards 291
obesity 285–97
protective equipment 290–1
rehabilitation programmes 291–2
shift work 287
short-term disability 288–9
sickness absence 288–9
stigma 292–4
stress 286–7
treatment response 287
weight loss 287, 294–5
oestrogens 255
omentin 58
ONTARGET trial 169–70
oral contraceptives 263
orlistat 78, 116, 192–3, 237, 281
OSA see obstructive sleep apnoea
overweight and obese children (OWC) see childhood obesity
oxidative stress 53–4
PAI-1 see plasminogen activator inhibitor 1
PALs 130, 138
Paris Prospective Study 155, 163
pathophysiology
adipose tissue as endocrine organ 54–9
beta cell dysfunction 54
dyslipidaemia 47–8
ectopic fat storage hypothesis 52–3
hyperglycaemia 47–8, 50–2
hypoglycaemia 50
inflammatory pathways 59–62
insulin resistance 52–4, 56–8, 61–2
leptins 55–6
mechanisms linking obesity to
t2DM 47–8
non-esterified fatty acids 48–9, 54, 56–60
oxidative stress 53–4
Randle’s glucose-fatty acid hypothesis 49–52, 56, 58
triglycerides 48, 49, 52–3
type 2 diabetes mellitus 47–66
patient expectations 106
PCOS see polycystic ovary syndrome
PEACE trial 166
peroxisome proliferator activator receptors (PPARs) 53, 252, 262–3
pharmacotherapies see drug therapies
phenotypic variance 15–17
physical activity 32–3, 125–50
autonomic neuropathy 138
behaviour modification 104, 106, 110, 113, 142
childhood obesity 136, 139–40, 236–7
physical activity (Continued)
definition 125–6
energy balance 31, 39, 41
energy expenditure 130–5
environmental factors 40
epidemiological studies 7
exercise tolerance 135–6
foot trauma 137–8
guidelines 126–8, 136–8
heart rate 133–5
hypoglycaemia 137
intervention studies 71–5
metabolic syndrome 128
nephropathy 138
patient evaluations 136–7
prescription 131–5, 136–8
primary care 279–80
relative exercise intensity 131–5
research evidence 138–43
type 2 diabetes mellitus 127–9, 135–8, 140–5, 279–80
versus exercise 125–6
physical attractiveness 292–3
Pima Indians
epidemiological studies 4–5, 6
hypertension 154–5, 160
obesity 4–5, 6, 306
type 2 diabetes mellitus 67, 80
PKC see protein kinase C
plasminogen activator inhibitor 1
(PAI-1) 151, 162
polycystic ovary syndrome (PCOS) 247–71
childhood obesity 227–8
clinical features 256–60
diagnostic criteria 247–8
dietary factors 256
drug therapies 249, 261–3
dyslipidaemia 257–9
endothelial dysfunction 259–60
genetics 249–51
hyperandrogenism 247–9, 254–5, 262
infertility 260
insulin resistance 249, 251–2, 256–7, 259–60
lifestyle 249, 260–1
management/treatment 249, 260–3
menstrual abnormalities 260
metabolic syndrome 248
obesity 247–71
pathogenetic mechanisms 248–9, 251–6
type 2 diabetes mellitus 251, 257
portion size 36–7, 40
positional genetic techniques 22–7
association studies 25
linkage disequilibrium 23, 25–6
linkage studies 23–5
quantitative trait loci 26–7
postprandial hyperglycaemia 70
PPARs see peroxisome proliferator activator receptors
Prader–Willi syndrome (PWS) 19, 226
prejudice 291–4
prescription
dietary 92
physical activity 131–5, 136–8
primary care 273–83
behaviour modification 280–1
clinical assessments 277
current approaches 274
dietary factors 275–7
drug therapies 274, 281–2
early treatment 274
multidisciplinary approaches 275
obesity 273, 275, 281–2
physical activity 279–80
prevalence of obesity 273
treatment groups 277–8
type 1 diabetes mellitus 274
type 2 diabetes mellitus 273–83
problem solving 108, 110–11
PROCAM study 155, 164
protective equipment 290–1
protein kinase C (PKC) 161
protein-sparing modified fast (PSMF)
diet 93–4
proteinuria 277
PROVE IT study 172
Prudent diet 38
pseudohypoparathyroidism 226
PSMF see protein-sparing modified fast
psychological effects 227, 229
pulse wave velocity (PWV) 258–9
PWS see Prader–Willi syndrome
PWV see pulse wave velocity
quantitative trait loci (QTLs) 26–7
race see ethnicity
Randle’s glucose-fatty acid hypothesis 49–52, 56, 58
rating of perceived exertion (RPE) 134–5
Raynaud’s phenomenon 286
reactive oxygen species (ROS) 54, 162
REGRESS study 172
rehabilitation programmes 291–2
relapse prevention 106, 112–13
relative exercise intensity 131–5
resistin 57
resting energy expenditure 31
resting metabolic rate (RMR) 14
restrictive surgical procedures 204–8, 210–11
REVERSAL study 172–3
rimonabant 194–5, 281
RMR see resting metabolic rate
road accidents 289–90
ROS see reactive oxygen species
Roux-en-Y gastric bypass 206, 208, 211–13
RPE see rating of perceived exertion
SCOUT trial 194
seggregation studies, genetics 17–18
selective insulin resistance 154–5
self-monitoring 107, 109
self-reported data 3
sex hormone binding globulin (SHBG) 250, 252–4, 261, 263
shift work 287
short-term disability 288–9
sibutramine 116, 193–4, 237, 281
sickness absence 288–9
sleep apnoea 227, 229, 289
sleeve gastrectomy 207–8
SLIM study 77
slipped femoral epiphysis 227–8
snacking 37
social support 111–12
SOCS-3 see suppressor of cytokine signalling-3
sodium restriction 154, 166
SOS study 77, 209
spontaneous physical activity (SPA) 131
STARS trial 170
statins 171–3, 192–3, 237
stigma 292–4
stimulus control/cues 107, 109–10
Stockholm Prospective Study 155
STORM study 193
stress 286–7
sugar-rich drinks 35–6
sulfonylureas 88–9, 187–8, 192–3, 274
suppressor of cytokine signalling-3
(SOCS-3) 57, 61
Swedish Obese Subjects (SOS) study 77, 209
syndromic obesity 15, 17, 19–22
T1DM see type 1 diabetes mellitus
T2DM see type 2 diabetes mellitus
TDT see transmission disequilibrium test
television viewing 39, 105
TG see triglycerides
TGRLPs see triglycerine-rich lipoproteins
thermogenesis
dietary factors 90
energy balance 31
physical activity 129
thiazolidinediones (TZDs) 57, 188–9, 262–3
thrifty genotype hypothesis 8, 70, 307
thrifty phenotype hypothesis 307–8
TNF see tumour necrosis factors
TNT study 171–2, 174
toxic environment 104–5
transgenic techniques 27–8
transmission disequilibrium test (TDT) 26
treatment groups 277–8
triacylglycerol 93
triglycerides (TG)
ethnicity 303
insulin resistance 160
obesity 155–6
pathophysiology 48, 49, 52–3
type 2 diabetes mellitus 163
triglycerine-rich lipoproteins
(TGRLPs) 156, 163
tumour necrosis factors (TNF) 57, 59–62,
151, 159–60, 162, 252
twin studies 15–16
type 1 diabetes mellitus (T1DM)
  childhood diabetes  5
  childhood obesity  230, 234
dietary factors  87
epidemiological studies  5
primary care  274
type 2 diabetes mellitus (T2DM)
  autonomic neuropathy  138
  behaviour modification  280–1
  childhood obesity  227, 230–4, 239
  clinical assessments  277
coronary heart disease  163–6
dietary factors  87–9, 90–4, 275–7
drug therapies  185–202, 274, 281–2
dyslipidaemia  162–3
epidemiological studies  1–9
ethnicity  299–300, 305, 308
foot trauma  137–8
hyperglycaemia  185–91
hypertension  163–4, 195–6
hypoglycaemia  137–8
intervention studies  71–9
management  140–2, 143–4
metabolic surgery  203–20
nephropathy  138
pathophysiology  47–66
physical activity  127–9, 135–8, 140–5, 279–80
polycystic ovary syndrome  251, 257
prevention  67–85, 140, 144–5
primary care  273–83
risk factors  67–71, 74–5, 80–1
treatment groups  277–8
TZDs see thiazolidinediones
UCPs see uncoupling proteins
UK Prospective Diabetes Study
  drug therapies  185–6, 191, 195–6
type 2 diabetes mellitus  163, 165
uncoupling proteins (UCPs)  14, 18–19, 53
undernutrition  2
underwater weighing  14
uranalysis  277
VA-HIT trial  174
VALUE trial  168
VGB see vertical banded gastroplasty
ventricular dysfunction  154
vertical banded gastroplasty (VGB)  205, 210
very low calorie diets (VLCDs)  97–8, 114–15
very low density lipoproteins (VLDLs)  155–6
visfatin  58
vitamin supplementation  95–6
VLCDs see very low calorie diets
VLDLs see very low density lipoproteins
waist circumference (WC)  300, 303
waist–hip ratio (WHR)
  cardiovascular disease  153
  childhood obesity  223
  epidemiological studies  6
  ethnicity  300, 303
water intake  34
WC see waist circumference
weight gain
  drug therapies  196–7
  epidemiological studies  6, 8
  physical activity  32–3, 138
weight loss
  behaviour modification  104, 106–14
  benefits  166
  childhood obesity  236–7
  dietary factors  88–9, 92–3
  drug therapies  196
  intervention studies  72–3, 76–7
  metabolic surgery  204–8
  occupational health  287, 294–5
  polycystic ovary syndrome  260–1
  primary care  278, 281–2
Western diet  38
white finger  286
WHO see World Health Organization
WHR see waist–hip ratio
work see occupational health
workplace accidents  289–90
World Health Organization (WHO)
  classification of obesity  2, 6
  ethnicity  299
  insulin resistance  156
  type 2 diabetes mellitus  69
Xendos trial  78