

INDEX

Note: Page numbers in *italics* indicate figures;
page numbers followed by t indicate tables.

A (amplitude) mode, of echocardiography, 59
Abdominal examination, 42
Accessory bypass tract
 angina management in, 181
 verapamil in, 104
Accupril (quinapril), dosage and pharmacokinetics of, 118t
ACE inhibitors. *See Angiotensin-converting enzyme inhibitors.*
Acebutol (Monitan, Rhotral, Sectral)
 in asthma, 89
 dosage of, 93t
 pharmacokinetics of, 93t
 solubility of, 89
Acetaminophen (Tylenol), nitrate interaction with, 85
Acetylcholine, vasoconstriction and, 26
Adalat. *See Nifedipine (Adalat).*
Adenosine, to induce stress, 53, 62
Adjunctive therapy
 ACE inhibitors in, 116-117, 118t, 119, 122
 antidepressants in, 120
 antioxidants in, 115-116, 123
 anxiolytics in, 120, 121t, 122-123
 aspirin in, 113-114, 122
Aerobic exercise. *See Exercise.*
Age
 nitroglycerin dose and format and, 85
 as risk factor, 16
Alcohol consumption
 atrial fibrillation and, 178
 as modifiable risk factor, 16
Alcohol intake, ventricular arrhythmia and, 186t
Alprazolam (Xanax), dosage, pharmacokinetics, and side effects
 of, 121t
Altace (ramipril), dosage and pharmacokinetics of, 118t
Ambulatory electrocardiographic monitoring
 advantages of, 65
 of autonomic tone, 68
 false positive results of, 67
 of heart rate variability, 68
 history of, 65
 indications for, 65-66, 153
 of silent ischemia, 65, 67
 technique of, 66-67
American Heart Association/American College of Cardiology

214

Guidelines and Indications for Coronary Artery Bypass
Surgery, 166
Amlodipine (Norvasc)
 adverse effects of, 99
 atenolol with, 105
 dosage of, 99, 100t
 in combination therapy, 110, 111
 pharmacokinetics of, 99, 100t, 102
 tissue selectivity of, 100t
Anemia
 as coexisting condition, 207
 ventricular arrhythmia and, 186t
Anger, as modifiable risk factor, 16
Angina. *See Ischemic events; Nocturnal angina; Stable angina; Unstable angina.*
Angiography, coronary. *See Coronary angiography.*
Angioplasty. *See Coronary angioplasty; Percutaneous transluminal coronary angioplasty.*
Angioplasty Compared to Medicine (ACME) trial, 159-160
Angiotensin-converting enzyme inhibitors
 adverse effects of, 117, 122
 for aortic insufficiency, 117
 benefits of, 117
 diuretics with, 117, 119, 122
 dosage of, 118t
 for hypertension, 119, 122
 indications for, 119
 for left ventricular dysfunction, 28, 119, 188
 left ventricular ejection fraction and, 116
 for mitral regurgitation, 117, 119
 myocardial remodeling and, 116
 nitrates and, 122
 pharmacokinetics of, 118t
 plaque rupture and, 28-29
 for ventricular arrhythmia, 189
Angiotensin II inhibitors, plaque rupture and, 28-29
Antiarrhythmic drugs
 drug interactions with, 189
 selection of, phases of, 185-187
Anticoagulants, for atrial fibrillation, 179, 182
Antidepressant(s)
 exercise as, 140
 rationale for use of, 120
Antioxidants
 in cigarette smokers, 116, 123
 dosage of, 115, 123
 gout and, 115
 physical effects of, 115
 plaque rupture and, 28-29

215

- prophylactic, 17
 - in symptom-free patient, 202
 - warfarin therapy with, 115
- Anxiety, angina diagnosis and, 193
- Anxiolytics
 - benefits of, 122-123
 - cardiovascular side effects of, 121t
 - dosage and pharmacokinetics of, 121t
 - rationale for use of, 120
- Aortic insufficiency, ACE inhibitors for, 117
- Apical impulse, palpation of, 42
- Arcus senilis, 41-42
- Arm, left, pain in, 37
- Arrhythmia
 - β -blockers for, 88
 - ventricular. See *Ventricular arrhythmia*.
- Aspirin
 - action mechanism, 114
 - adverse effects of, 114
 - contraindications to, 113, 122
 - dosage of, 113, 206
 - effectiveness of, gender and, 193-195
 - heparin with, 114
 - hypersensitivity to, 122
 - indications for, 113-114, 153, 173, 200
 - in risk management, 17, 202-203
 - thrombosis and, 28
 - for ventricular arrhythmia, 183
- Asthma
 - β -blockers in, 88-89, 98
 - nifedipine in, 98
- Atenolol (Tenormin)
 - amlodipine with, 105
 - in asthma, 89
 - dosage of, 92t
 - in combination therapy, 109, 110, 201
 - timing of, 90
 - pharmacokinetics of, 92t
 - solubility of, 89
- Atherectomy, 162
 - re-occlusion after, 168
- Atherosclerotic plaque
 - angiographically normal vessel, 29
 - endothelial response to, 26
 - hyperlipidemia and, 25
 - rupture of
 - ischemic incidence after, 27
 - myocardial infarction and, 129-130

- physiology of, 27
- prediction of, 129
- prevention of, 27-28
- symptoms of, 129
- thrombus formation and, 25, 27
- trigger vents for, 29
- vasospasm and, 27
- Ativan (lorazepam), dosage, pharmacokinetics, and side effects of, 121t
- Atrial arrhythmia, calcium channel blockers for, 97
- Atrial fibrillation
 - alcohol consumption and, 178
 - ambulatory electrocardiographic monitoring of, 66
 - anticoagulants for, 179, 182
 - β -blockers for, 90, 177-180, 182
 - calcium channel blockers for, 177-178, 182
 - cardioversion for, 179-180, 182
 - conditions commonly coexisting with, 177
 - digoxin for, 177-179, 182
 - diltiazem for, 178, 180
 - embolic risk in, 178, 182
 - as isolated condition
 - disease risk in, 177, 181
 - management of, 178-179
 - myocardial infarction and, 177
- Atrial ventricular nodal reentry tachycardia, 181
- Autonomic tone, ambulatory electrocardiographic monitoring of, 68
- Baldness, myocardial infarction and, 42
- Belching, in ischemia and infarction, 36
- Benazepril (Lotensin), dosage and pharmacokinetics of, 118t
- Benson's relaxation method, 146
- β -Blockers, 153
 - action mechanism of, 87
 - adverse effects of, 89, 91, 94, 111, 178
 - for arrhythmia, 88, 183-185, 188-189
 - in asthma, 88-89
 - for atrial fibrillation, 177-180, 182
 - in bradycardia, 41, 112
 - calcium channel blockers with, 91, 105, 107
 - for coexisting atrial fibrillation and coronary artery disease, 90
 - in combination therapy, 109, 110, 173, 200, 203
 - contraindications to, 88
 - diltiazem interaction with, 98
 - dosage of, 92t-93t
 - determination of, by exercise treadmill testing, 91
 - timing of, 90-91, 95
 - failure of, 153, 155

formulation of, 92t-93t
heart rate and, 87-88, 91, 95
 for hypertension, 19-20, 88, 204
 in Black patient, 90
intrinsic sympathomimetic activity of, 89
lipid effects of, 94
nifedipine interaction with, 91, 98, 107
nitrate interaction with, 85, 91
pharmacokinetics of, 92t-93t
plaque rupture and, 28-29
selectivity of, 89, 95
solubility of, 89, 95
 for supraventricular tachycardia, 181
under-utilization of, 111
vasodilators with, 91
 for ventricular arrhythmia, 183-185, 188-189
verapamil with, 98
vs cardioversion, 180

Beta-carotene
adverse effects of, 115-116
dosage of, 115, 123
physical effects of, 115
plaque rupture and, 28

Betaloc. See *Metoprolol (Betaloc, Lopressor)*.

Bile acid sequestrants, 18t

Biliary colic, differential diagnosis of, 47

Biocadren. See *Timolol (Biocadren)*.

Black patient
 aspirin effectiveness in, 194
 hypertension in, β -blockers for, 90

Blood pressure. See also *Hypertension; Hypotension*.
 during exercise, 50, 52, 56, 139. See also *Exercise treadmill testing*.

Body language, of patient, during history taking, 34

Body position
 angina symptoms and, 34, 35t, 36, 40
 esophageal pain and, 46

Bradycardia
 ambulatory electrocardiographic monitoring of, 66
 β -blockers and calcium channel blockers in, 41, 112
 calcium channel blockers in, 107, 112, 441
 combination therapy in, 112
 definition of, 41

Breakfast, dietary recommendations for, 132

Breathlessness
 as danger signal, 128
 in exercise, 204
 hypertension and, 19

 as indication for CABG surgery, 167
 nitroglycerin for, 77-78, 84

Bronchodilation, ventricular arrhythmia and, 186t

Bronchospastic disease
 β -blockers in, 88-89, 98
 nifedipine in, 98

Bruce protocol, 50-51
 advantages of, 54-55
 duration of, 52, 56
 early angina onset in, 52

Bursitis, differential diagnosis of, 47

CABG surgery. See *Coronary artery bypass graft surgery*.

Calcium channel blockers, 153. See also specific drug, eg, *Nifedipine (Adalat)*.
 in accessory bypass tract patient, 181
 action mechanism of, 97-98
 adverse effects of, 104t, 104-105, 181
 for atrial fibrillation, 177-179, 182
 for atrial ventricular nodal reentry tachycardia, 181
 β -blocker interaction with, 91, 105
 in bradycardia, 41, 107, 112
 in combination therapy, 109, 110, 173
 combination therapy with, 105
 contraindications to, 181
 failure of, 153, 155
 heart rate and, 105-107
 for hypertension, 20
 indications for, 97, 204
 myocardial infarction incidence with, 106
 nitrate interaction with, 85
 pharmacokinetics of, 98-99, 100t-101t, 102-104
 for supraventricular tachycardia, 181
 for ventricular arrhythmia, 183

Calories
 for desirable body weight, 134, 137
 from fat, from specific foods, 135t

Canadian Cardiovascular Society classification of angina, 40-41,
 109, 110, 127
 second opinion and, 171

Capoten. See *Captopril (Capoten)*.

Captopril (Capoten)
 dosage of, 118t, 119
 pharmacokinetics of, 118t, 119
 for stable angina, 116

Carbohydrates
 at calories from, 135t
 recommended intake of, 134

Cardiac arrest

- coronary angiography in, 152
- hyperkalemic, in congestive heart failure, 184
- Cardiac Arrhythmia Suppression Trial (CAST), 66, 187
- Cardiac catheterization. See *Coronary angiography*.
- Cardioversion
 - for atrial fibrillation, 179-180, 182
 - for congestive heart failure, 180
 - for ventricular arrhythmia, 187-188
- Cardizem. See *Diltiazem (Cardizem)*.
- Carotid sinus massage
 - indications for, 43
 - response to, 38-39
- Catecholamines
 - β -blockers and, 88
 - EDRF release and, 81
 - vasoconstriction and, 26
- Catheterization, cardiac. See *Coronary angiography*.
- Central nervous system, calcium channel blockers and, 104
- Central neural transmitters, relaxation and, 146-147
- Cerebral hemorrhage, aspirin and, in elderly patient, 114
- Cerebral ischemia, calcium channel blockers for, 97
- Cerebral vascular accident, CABG surgery and, 174
- Cerebrospinal fluid, chemistry of, exercise and, 140
- Chest pain
 - causes of, 11, 204-205
 - cardiac, 12
 - duration of, 35t, 36, 128
 - gastrointestinal, 45-47
 - gender and, 191-192, 204-205
 - Levine sign in, 34
 - localization of, 35t, 37
 - musculoskeletal, 47
 - nature of, 33-34, 35t
 - noncardiac, sources of, 45t
 - noninvasive evaluation of. See *Noninvasive evaluation of chest pain*.
 - patient description of, 33-34
 - pericardial, 48
 - provocation of, 34, 35t, 36, 39, 199
 - pulmonary, 48
 - radiation of, 35t, 37, 199
 - relief of, 35t
 - time of day of, 7, 35t, 36, 40, 43
 - unresponsive, 128
- Cholesteatoma, 42
- Cholesterol, elevated. See *Hyperlipidemia*.
- Cigarette smoking, 12
 - antioxidants and, 116, 123

- cardiac death rate and, 17
- cessation of, timing of risk reduction after, 17
- EDRF release and, 81
- graft occlusion and, 17
- as modifiable risk factor, 15, 199
- Classification of angina
 - Canadian Cardiovascular Society system of, 40-41, 109, 110, 127
 - second opinion and, 171
- Clinazapril (Inhibace), dosage and pharmacokinetics of, 118t
- Combination therapy. See also specific drug or drug type.
 - in bradycardia, 112
 - Canadian classification and, 109, 110
 - drug side effects in, 111
 - in elderly patient, 111-112
 - failure of, 173, 201
 - indications for, 109
- Congestion
 - nasal, β -blockers and, 92
 - pulmonary, 42
 - ventricular arrhythmia and, 186t
- Congestive heart failure
 - ACE inhibitors in, 117
 - atrial fibrillation in, 178
 - β -blockers in, 88
 - cardioversion for, 180
 - echo or radionuclide ventriculography in, 63
 - gender and, 191
 - hyperkalemic cardiac arrest in, 184
- Constipation, calcium channel blocker-induced, 104-105
- Contractility, myocardial, radionuclide ventriculography of, 62
- Corgard. See *Nadolol (Corgard)*.
- Coronary angiography
 - advantages of, 151
 - in Canada vs. U.S., 151-152
 - frequency of, 151, 155-156
 - indications for, 12, 127-128, 153
 - in absence of specific symptoms, 154
 - absolute, 152
 - occupational, 152
 - symptom-based, 154-155, 201, 205
 - mortality after, 152, 157
 - normal vessel on, plaque instability in, 29
 - outcome of, 156-157
 - reinfarction after, 152
- Coronary angioplasty
 - complications of, 160
 - delayed, 161
 - frequency of, 159

indications for, 12, 161-162
ischemic burden and, 160
percutaneous transluminal. See *Percutaneous transluminal coronary angioplasty*.
for salvage/rescue, 161
vs medical therapy, 159-160

Coronary artery, vasoconstriction of, anxiolytics and, 120, 122-123

Coronary artery bypass graft surgery
aspirin after, 113-114
cardiac mortality decrease and, 15
complications of, 174
contraindications to, 169
frequency of, 165
graft occlusion in, cigarette smoking and, 17
indications for, 153, 206
in angina, 153, 167
extensive coronary disease as, 168
occupational, 167
mortality after, 165-167
outcome cardiac events after, 165
vs PTCA, 168

Coronary artery disease
age and, 192, 195
 β -blockers for, 90
epidemiology of, 15
gender and, 191-195
ventricular arrhythmia with, 188

Coronary artery occlusion, pathophysiology of, 25

Coronary artery spasm, treatment of, 192

Coronary Artery Surgery Study (CASS), 156, 166

Costochondritis, differential diagnosis of, 47

Cough, ACE inhibitor-induced, 117, 122

Dairy products, fat calories from, 135t

Decompression of patient, sympathetic tone and, 74

Defibrillator, automated, indications for, 188

Delayed angioplasty, 161

Depression
 β -blockers and, 92
cardiac mortality and, 12, 172
diagnosis of, 193

Diabetes mellitus
ACE inhibitors in, 117
EDRF release and, 81
gender and, 191, 195, 205
insulin-dependent, 206
vascular effects of, 20

as modifiable risk factor, 16

Diazepam (Valium), dosage, pharmacokinetics, and side effects of, 121t

Dietary recommendations
caloric intake in, 133-134, 137
eating habits in, 20-21, 132-133
examples of, for each meal, 132
fish in, 136
food groups in, 131, 133-134
garlic and walnuts in, 136
hyperlipidemia and, 19, 133-134
Mediterranean, 134, 136
necessity of, 12
in obesity, 20-21, 137
percentage fat intake in, 133, 137
polyunsaturated fatty acids in, 136
sources of, 131
water intake in, 137

Digestion, β -blockers and, 87

Digoxin
adverse effects of, 177-178
for atrial fibrillation, 177-179
for coexisting atrial fibrillation and coronary artery disease, 90
esmolol with, 180
for ventricular arrhythmia, 189

Dihydropyridine
adverse effects of, 105
for atrial fibrillation, 178
 β -blocker interaction with, 91, 107

Diltiazem (Cardizem)
adverse effects of, 105
for atrial fibrillation, 178, 180
 β -blockers with, 98
contraindications to, 103
for coronary artery spasm, 192
dosage of, 101t, 102
in combination therapy, 109, 110, 201, 206
nifedipine with, 105
pharmacokinetics of, 99, 101t, 102
physical effects of, 99
tissue selectivity of, 101t

Dinner, dietary recommendations for, 132

Dipyridamole, to induce stress, 53, 62, 195

Diuretics
with ACE inhibitors, 117, 119, 122
for ventricular arrhythmia, 189

Dizziness, angina with, 128

Dobutamine, to induce stress, 62

Doppler ultrasound, two-dimensional echocardiography with, 60

Double product, in exercise treadmill testing in, calculation of, 50-51, 203

Drug metabolism, gender and, 193-194

Duration of discomfort, in angina vs noncardiac chest pain, 35t, 36

Ear lobe

- crease in, myocardial infarction and, 42
- left, pain in, 37

Eating disorder, ventricular arrhythmia and, 186t

Eating habits, for weight loss, 20-21, 132-133

Echocardiography

- color flow in, 60
- during exercise stress testing, 61-62, 192-193, 195
- factors calculated in, 60
- indications for, 63, 127-128, 153
- modes of, 59
- segmental wall motion analysis in, 60
- two-dimensional, 60
- of ventricular function, 60-61, 63
- in women, 192-193, 195

EDRF. *See Endothelial-derived relaxation factor (EDRF).*

Ejection fraction, left ventricular, 59, 63

- ACE inhibitors and, 116
- after myocardial infarction, 205
- as indication for coronary angiography, 154

Elderly patient

- calcium channel blockers in, 104
- cerebral hemorrhage in, aspirin and, 114
- combination therapy in, 111-112
- nitroglycerin dose and format for, 85

Electrocardiographic exercise treadmill testing. *See Exercise treadmill testing.*

Electrocardiography

- ambulatory. *See Ambulatory electrocardiographic monitoring.*
- Holter. *See Ambulatory electrocardiographic monitoring.*

Electrocardioversion

- for atrial fibrillation, 179-180, 182
- for congestive heart failure, 180
- for ventricular arrhythmia, 187-188

Electrophysiologic Study Versus Extended Monitoring (ESVEM) trial, 185

Embolism, atrial fibrillation and, 178, 182

Enalapril (Vasotec)

- dosage of, 118t, 119
- in combination therapy, 205-206
- pharmacokinetics of, 118t

Endothelial-derived relaxation factor (EDRF)

nitric oxide and, 26, 29

physiological effects of, 81

release of

- factors inhibiting, 81-82
- factors stimulating, 81
- physiology of, 25-26

Endothelium, damaged, vasoconstriction and, 26, 29

Epidemiology of coronary artery disease, 15

Esmolol, intravenous, for atrial fibrillation, 180

Esophageal spasm or reflux, differential diagnosis of, 45-46

European Randomized Trial, 166

Exercise, 12

- benefits of
 - emotional, 140
 - physical, 22, 139, 143
- β -blockers and, 87, 91
- cerebrospinal fluid chemistry and, 140
- duration of, 143
 - in Bruce protocol, 52, 56
 - as indication for coronary angiography, 154
 - as indication for echo or radionuclide ventriculography, 63
- frequency of, 140-141
- heart rate/blood pressure response to, 50, 139, 143
- hypotension during, 52, 56
- insulin sensitivity and, 139, 143
- myocardial oxygen demand and, 26-27, 143
- prescription for
 - exercise treadmill testing for development of, 53, 141
 - formulas for, 140-142
- prophylactic nitroglycerin before, 142, 144
- routinization of, 143
- ST-segment depression during, 50, 129, 201-202, 204
- timing of
 - meal intake and, 142, 144
 - medication intake and, 142, 144

Exercise treadmill testing

- adverse outcomes of, 52-53, 153
- assessment of therapeutic efficacy with, 173
- in combination therapy assessment, 112
- cost of, 54-55
- to determine β -blocker dosage, 91
- to develop exercise prescription, 53
- double product in, 50-51, 203
- duration of, 52, 55-56, 129
 - as indication for coronary angiography, 154
 - as indication for echo or radionuclide ventriculography, 63, 128-129
 - in second opinion patient, 172
- echocardiography during, 61-62, 192, 195

false positive results of, 50, 192, 195
 indications for, from medical history, 203
 posttest likelihood of disease in, 50
 as predictor of angina threshold, 87, 206
 pretest likelihood of disease in, 50
 red flags in, 128-129
 risk assessment using, 172-173
 sensitivity and specificity of, 55
 ventricular arrhythmia in, 51-52, 55, 129, 154, 184, 187
 in women, 192-193, 195
 Exertion, provocation by, 34, 35t, 36, 38, 40
 Extremities, cold, β -blockers and, 91

Family history
 as nonmodifiable risk factor, 16, 199
 of ventricular arrhythmia patient, 186t

Family of patient
 cardiac mortality and, 12, 16
 conference with
 regarding nitroglycerin, 85
 regarding risk factors, 73-74
 as second opinion, 172

Fat, dietary, 131
 calories from, in specific foods, 135t
 recommended level of, 19, 133-134, 137

Felodipine (Plendil, Renedil), dosage, pharmacokinetics, and tissue selectivity of, 100t

Fibrillation. *See Atrial fibrillation; Ventricular fibrillation.*

Fish, dietary, 136

Fluoxetine, 120

Food intake
 gastrointestinal pain after, 46-47, 199
 provocation by, 35t, 36, 43, 212

Fosinopril (Monopril), dosage and pharmacokinetics of, 118t

Fruit
 dietary, 131
 fat calories from, 135t

Garlic, dietary, 136

Gastrointestinal disorders
 aspirin-induced, 114
 β -blockers and, 92
 calcium channel blocker-induced, 104-105

Gastrointestinal pain, differential diagnosis of, 45-47

Gender
 female. *See Women.*
 male, as risk factor, 16

Gout, antioxidants and, 115

Graft patency, aspirin and, 114

Grains, dietary, 131
 fat calories from, 135t

Group therapy, for stress management, 74

Headache
 calcium channel blocker-induced, 104
 migraine, prophylactic vasodilators for, 98
 nitroglycerin-induced, 83

Heart, enlarged, 42

Heart disease
 before age 55, 16
 family history of, 16

Heart failure, congestive. *See Congestive heart failure.*

Heart rate
 ambulatory electrocardiographic monitoring of, 68
 β -blockers and, 87-88, 91, 95
 calcium channel blockers and, 105-107
 during exercise, 50-51, 206. *See also Exercise treadmill testing.*
 in physical examination, 41

Heat therapy, for costochondritis, 47

Heparin
 antioxidants and, 115
 aspirin with, 114

Hiatal hernia, differential diagnosis of, 45-46

History taking
 carotid sinus massage in, response to, 38-39
 case examples of, 199-207
 information necessary in
 duration of discomfort, 35t, 36
 nocturnal awakening, 35t, 38
 pain relief methods, 35t, 36, 40
 provocation incidents, 34, 35t, 36, 38, 43
 radiation of pain, 35t, 37
 time of day of chest pain, 35t, 36, 40, 43
 nitroglycerin administration in, response to, 37
 patient body language in, 34
 phrasing of questions in, 33-34, 39
 physician manner in, 12
 red flags in, 127-128
 from second opinion patient, 171-173
 spontaneous description characteristics in, 33-34
 from ventricular arrhythmia patient, 186t

HMG-CoA reductase inhibitors, 18t

Holter electrocardiographic monitoring. *See Ambulatory electrocardiographic monitoring.*

Hostility, as modifiable risk factor, 16

3-Hydroxy-3-methylglutaryl coenzyme A, 18t
Hyperacidity, treatment of, 46
Hyperkalemia
 ACE inhibitor-induced, 117, 188
 cardiac arrest from, in congestive heart failure, 184
Hyperlipidemia
 antioxidants and, 115
 assessment of, 19
 atherosclerotic plaque formation and, 25
 definition of, 19
 dietary fat and, 19, 133-134
 dietary garlic and walnuts and, 136
 EDRF release and, 82
 exercise and, 143
 as modifiable risk factor, 15
 pharmacotherapy for, 17, 18t
 stigmata of, 41-42
 total body fat and, 139
Hypertension
 ACE inhibitors for, 119, 122
 atrial fibrillation with, 177
 β -blockers for, 19-20, 88
 in Black patient, 90
 breathlessness and, 19
 calcium channel blockers for, 97
 EDRF release and, 82
 gender and, 191, 195, 205
 as modifiable risk factor, 15
 pharmacotherapy for, 19-20
 vasodilatory medicine in, 41
Hyperthyroidism, diagnosis of, 41
Hypokalemia, ventricular arrhythmia and, 186t
Hypomagnesemia, ventricular arrhythmia and, 186t
Hypoperfusion, as indication for coronary angiography, 154-155
Hypotension
 ACE inhibitor-induced, 117
 anxiolytic-induced, 121t
 calcium channel blocker-induced, 104
 exercise-induced, 52, 56
 as indication for CABG surgery, 167
 as indication for coronary angiography, 154

IDDM. See *Diabetes mellitus, insulin-dependent*.
Inderal. See *Propranolol (Inderal)*.
Informed consent, in second opinion patient, 174
Inhibace (clinzapril), dosage and pharmacokinetics of, 118t
Insulin, in combination therapy, 205-206
Insulin sensitivity, exercise and, 139

228

Internal mammary artery bypass graft, 168
Invasive management of angina
 CABG surgery as. See *Coronary artery bypass graft surgery*.
 coronary angiography as. See *Coronary angiography*.
 coronary angioplasty as. See *Coronary angioplasty*.
 gender and, 193, 195
 schema for, 153
Ischemic events. See also *Nocturnal angina; Stable angina; Unstable angina*.
 after plaque rupture, incidence of, 27
 cascade leading to, 29
 silent, 202
 ambulatory electrocardiographic monitoring of, 65, 67
 IDDM and, 20
 ST-segment depression in, 66
 supply vs. demand model of, 25
 time of day and, 27
Isoptin. See *Verapamil (Isoptin, Verelan)*.
Isosorbide dinitrate, dosage of, 79, 80t
 in combination therapy, 110,
Isosorbide mononitrate
 dosage of, 79, 80t, 81
 in combination therapy, 110, 201
 longer-acting, 83

Laser angioplasty, 162
 re-occlusion after, 168
Left ventricular dysfunction. See also *Ventricular entries*.
 ACE inhibitors for, 28, 119, 188
 ambulatory electrocardiographic monitoring of, 66
 CABG surgery in, 169
 cardiac enlargement and, 42
 nifedipine in, 98
 ventricular arrhythmia with, 188
Left ventricular ejection fraction, 59, 63
 ACE inhibitors and, 116
 after myocardial infarction, 205
 as indication for coronary angiography, 154
Levine sign, 34
Lifestyle, sedentary
 exercise in, 22, 140
 as risk factor, 15, 22
Lipid abnormality. See *Hyperlipidemia*.
Lisinopril (Prinivil, Zestril), dosage and pharmacokinetics of, 118t
Lopressor. See *Metoprolol (Betaloc, Lopressor)*.
Lorazepam (Ativan), dosage, pharmacokinetics, and side effects of, 121t

229

Lotensin (benazepril), dosage and pharmacokinetics of, 118t
Lunch, dietary recommendations for, 132
Lung:heart thallium uptake ratio. See also *Perfusion imaging*.
 as indication for CABG surgery, 167
 as indication for coronary angiography, 154-155
Lungs
 congestion in, 42
 pain in, 48

M (motion) mode, of echocardiography, 59
Male gender, as nonmodifiable risk factor, 16
Mammary artery bypass graft, 168
Massage, of carotid sinus, response to, 38-39
Medicine, Angioplasty or Surgery (MASS) study, 156-157
Meditation. See *Relaxation/meditation*.
Mediterranean diet, 134, 136
Metoprolol (Betaloc, Lopressor)
 in asthma, 89
 dosage of, 92t, 202
 in combination therapy, 109, 110, 205-206
 pharmacokinetics of, 92t
 solubility of, 89
Migraine headache, prophylactic vasodilators for, 98
Mitral regurgitation
 ACE inhibitors for, 117, 119
 atrial fibrillation with, 177
 causes of, 42
Mitral stenosis, atrial fibrillation with, 177
Monitan. See *Acebutol (Monitan, Rhotral, Sectral)*.
Monopril (fosinopril), dosage and pharmacokinetics of, 118t
Mortality, cardiac, 11
 after CABG surgery, 165-167, 174
 after coronary angioplasty, 160
 cigarette smoking and, 17
 decrease in, 15
 depression and, 12, 172
 gender and, 191, 195
 incidence of, 12, 15, 15, 156-157
 social isolation and, 12
 spousal support and, 121
 sudden. See *Sudden cardiac death*.
 thrombus and plaque rupture as cause of, 25
Murmur
 causes of, 42
 echo or radionuclide ventriculography in, 63
Musculoskeletal pain, differential diagnosis of, 47
Myocardial contractility, radionuclide ventriculography of, 62
Myocardial infarction

230

 angina after, 155
 atrial fibrillation and, 177, 182
 during CABG surgery, 174
 coronary angioplasty for, 161-162
 hypertension and, calcium channel blockers and, 106
 left ventricular ejection fraction after, 205
 mechanisms of, 129-130
 plaque rupture and, 129-130
 prevention of, aspirin in, 113-114
 survivors of
 ACE inhibitor genotype in, 28
 β -blockers in, 88
 symptoms of, 129
 ventricular function after, 61
Myocardial oxygen demand. See *Oxygen demand, myocardial*.
Myocardial remodeling, ACE inhibitors and, 116

Nadolol (Corgard)
 dosage of, 93t
 pharmacokinetics of, 93t
 solubility of, 89
Nasal congestion, β -blockers and, 92
Neural transmitters, relaxation and, 146-147
Neurologic defect, CABG surgery and, 167
Niacin, 18t
Nicardipine, in combination therapy, 111
Nifedipine (Adalat)
 adverse effects of, 105-106
 for atrial fibrillation, 178
 β -blocker interaction with, 91, 98, 107
 for coronary artery spasm, 192
 diltiazem with, 105
 dosage of, 100t, 103
 in combination therapy, 110, 111
 for esophageal pain, 46
 pharmacokinetics of, 98-99, 100t
 tissue selectivity of, 100t
 vasodilatory effects of, 98
 verapamil with, 105
Nitrates
 ACE inhibitor interaction with, 122
 β -blocker interaction with, 91
 in combination therapy, 109, 110, 173, 203
 as diagnostic tool, 84
 dosage of, in combination therapy, 109, 110
 dosing schedule for, 79, 80t, 81, 85
 drug interaction with, 85
 pharmacokinetics of, 78
 physiology of, 77-78

231

- preparation formats of, 77
- tachyphylaxis from, 83
 - for ventricular arrhythmia, 183
- Nitric oxide
 - EDRF and, 26, 29
 - platelet adhesion and, 26
- Nitroglycerin
 - action mechanisms of, 26, 29
 - for breathlessness, 77-78, 84
 - in combination therapy, 109, 110
 - for coronary artery spasm, 192
 - determining freshness of, 37, 210
 - as diagnostic tool, 84
 - dosing schedule for, 79, 80t, 81, 85, 212
 - for esophageal pain, 46
 - first dose of, in physician's office, 82
 - guide for patient use of, 200, 209-213
 - headache and, 83
 - ineffectiveness of, 83, 128-129, 212-213
 - as ointment, 78-79
 - patient education on, 200, 209-213
 - patient resistance to, 82-83
 - pharmacokinetics of, 78, 209-210
 - preparation formats of, 77-78
 - prophylactic, 82, 211
 - rationale for, 26
 - response to, timing of, 37, 43, 84, 128, 210-211
 - in transdermal patch, 78, 80t
 - advantages of, 79
 - indications for, 83
 - nitrate tachyphylaxis from, 83
 - rest periods from, 79
- Nocturnal angina, 35t, 38. See also *Sleep disturbance*.
 - gender and, 191
 - as indication for CABG surgery, 167
 - nitroglycerin for, 84, 201
 - questions about, in history taking, 35t, 38
- Noninvasive evaluation of chest pain
 - ambulatory electrocardiographic monitoring as. See *Ambulatory electrocardiographic monitoring*.
 - cost of, 54-55
 - echocardiography as. See *Echocardiography*.
 - exercise treadmill testing as. See *Exercise treadmill testing*.
 - frequency of, 62
 - indications for, 54, 63, 127-128
 - perfusion imaging as. See *Perfusion imaging*.
 - pharmacologic. See specific drug or drug type.
 - radionuclide ventriculography as. See *Radionuclide*

- ventriculography*.
 - schema for, 153
 - stress echocardiography as, 61-62
 - ventricular function assessment in, 62-63
- Norvasc. See *Amlodipine (Norvasc)*.
- Obesity
 - definition of, 20
 - as modifiable risk factor, 16
 - treatment of. See also *Dietary recommendations*.
 - eating habits in, 20-21, 132-133
 - water intake in, 137
- Occlusive disease, IDDM and, 20
- Occupational indications
 - for CABG surgery, 167
 - for coronary angiography, 152
- Onset of angina, early, 52
- Oxazepam (Serax), dosage and pharmacokinetics of, 121t
- Oxygen demand, myocardial
 - exercise and, 26-27, 139, 143
 - nitric oxide and, 26
 - occlusion and, 25
 - trigger factors for, 26-27
- Pain, in chest. See *Chest pain*.
- Palpitations
 - angina with, 128
 - anxiolytic-induced, 121t
- Panic disorder, diagnosis of, 193
- Papillary muscle dysfunction, 119, 122
- Paroxetine, 120
- Patient behavior, in hyperthyroidism, 41
- Patient education, in nitroglycerin use, 200, 209-213
- Percutaneous transluminal coronary angioplasty
 - aspirin after, 114
 - cardiac mortality decrease and, 15
 - indications for, 153
 - reocclusion after, cigarette smoking and, 17
 - vs CABG surgery, 168
- Perfusion imaging
 - agents for, 53
 - indications for, 54, 202
 - interpretation of, 53-54
- Pericardial pain, differential diagnosis of, 48
- Pericarditis, atrial fibrillation with, 177
- Peripheral vascular disease, CABG surgery in, 169
- Personality profile
 - as modifiable risk factor, 16
 - social environment and, physician role in, 21

Physical examination
 elements of, 41-42, 200
 normal, 43

Physician
 manner of, in history taking, 12
 patient personality and, 21

Pindolol (Visken)
 dosage of, 93t
 pharmacokinetics of, 93t
 solubility of, 89

Plaque. See *Atherosclerotic plaque*.

Platelet adhesion
 EDRF and, 81
 nitric oxide and, 26
 physical or emotional stress and, 27

Pledil (felodipine), dosage, pharmacokinetics, and tissue selectivity of, 100t

Polyunsaturated fatty acid, 136

Position of body
 angina symptoms and, 34, 35t, 36, 40
 esophageal pain and, 46

Potassium, ventricular arrhythmia and, 183-184, 188-189

Prinivil (lisinopril), dosage and pharmacokinetics of, 118t

Prinzmetal's variant angina
 β -blockers in, 88
 nifedipine for, 98-99
 verapamil for, 103

Probucol, 18t

Propranolol (Inderal)
 dosage of, 92t
 pharmacokinetics of, 92t
 solubility of, 89

Prospective Randomized Amlodipine Survival Evaluation (PRAISE) trial, 99

Protein
 dietary, 131
 fat calories from, 135t
 recommended intake of, 134

Provocation
 of angina, 34, 35t, 36, 38, 40, 43, 206, 212
 β -blockers and, 87
 classification and, 40-41
 angina attack without, 127
 of costochondritis, 47

Psychologic/psychiatric support. See *Relaxation/meditation*.

PTCA. See *Percutaneous transluminal coronary angioplasty*.

Pulmonary congestion, 42

Pulmonary edema, coronary angiography in, 152

Pulmonary pain, differential diagnosis of, 48

Pulmonary uptake. See *Thallium uptake ratio*.

Pulse, venous, distension of, 42

Quinapril (Accupril), dosage and pharmacokinetics of, 118t

Radiation of pain, 35t, 37

Radionuclide ventriculography
 indications for, 63, 127-128
 parameters of, 62

Ramipril (Altace), dosage and pharmacokinetics of, 118t

Raynaud's phenomenon
 β -blockers and, 92
 vasodilators for, 98

Red meat, dietary, 131

Reflexes, in hyperthyroidism, 41

Relaxation factor, endothelial-derived. See *Endothelial-derived relaxation factor (EDRF)*.

Relaxation/meditation, 12
 non-cult methods of, 146
 physical effects of, 146-147
 planning for, 21

Renal insufficiency, ACE inhibitor-induced, 117

Renedil (felodipine), dosage, pharmacokinetics, and tissue selectivity of, 100t

Rescue angioplasty, 161

Rest angina, 40-41, 173

Restaurant dining, obesity management in, 20-21

Revascularization, gender and, 194

Rhotral. See *Acebutol (Monitan, Rhotral, Sectral)*.

Risk factors, 12. See also specific factor, eg, *Hyperlipidemia*.
 age and gender as, 16
 alcohol consumption as, 16
 angina level as, 73
 cigarette smoking as, 15, 17
 diabetes mellitus as, 16, 20
 dialogue with patient and family concerning, 73-74
 emotional stress as, 16, 21
 exercise-induced arrhythmia as, 73
 family history as, 16
 hypertension as, 15, 19-20
 left ventricular function as, 73
 lipid abnormalities as, 15, 17, 18t, 19
 obesity as, 16, 20-21
 personality-related, 16, 21
 sedentary lifestyle as, 15, 22
 sexual intercourse as, 74-75

Salvage angioplasty, 161-162

Second opinion patient

- angina classification and, 171
- for CABG surgery, 156
- combination therapy in, 173
- fear/optimism in, 174
- informed consent from, 174
- risk assessment in, 172-173
- risk factor modification in, 173
- sources of, 171, 203
- Sectral. See *Acebutol (Monitan, Rhotral, Sectral)*.
- Sedentary lifestyle
 - exercise in, 22, 140
 - as modifiable risk factor, 15, 22
- Segmental wall motion, analysis of, in echocardiography, 60-61
- Serax (oxazepam), dosage and pharmacokinetics of, 121t
- Serotonin
 - EDRF release and, 81
 - relaxation and, 146-147
 - vasoconstriction and, 26
- Sertraline, 120
- Sesta-Mibi scanning, 53-54
- Sexual dysfunction, β -blockers and, 91-92
- Sexual intercourse, angina provocation by, 74-75, 212
- Silent ischemia, 202
 - ambulatory electrocardiographic monitoring of, 65, 67
 - IDDM and, 20
 - ST-segment depression in, 66
- Skin, in hyperthyroidism, 41
- Sleep disturbance. See also *Nocturnal angina*.
 - β -blockers and, 91
 - chest pain and, 35t, 38, 127
 - nitroglycerin for, 84
- Smoking. See *Cigarette smoking*.
- Social isolation
 - cardiac mortality and, 12
 - as modifiable risk factor, 16
- Sposal support. See also *Family of patient*.
 - cardiac mortality and, 12
- ST-segment depression
 - ambulatory electrocardiographic monitoring of, 66
 - early onset of, 52
 - during exercise, 50, 129, 201-202, 204
 - interpretation of, in ambulatory electrocardiographic monitoring, 67
 - prognosis of, 52
 - in silent ischemia, 66
 - ventricular tachycardia with, 51-52, 55
- ST-T wave, diffuse changes in, 48
- Stable angina, captopril for, 116

- Stair climbing, provocation by, 40, 206
- Stenting, 162
 - re-occlusion after, 168
- Stress
 - β -blockers and, 87
 - coronary vasospasm and, 26-27
 - EDRF release during, 81
 - management of, 21, 74, 145-147
 - myocardial oxygen demand and, 26-27
 - pharmacologic, induction of, 53-54
 - plaque rupture and, 29
 - provocation by, 40, 212
 - sources of, 12, 16, 145, 199-200
- Stress echocardiography, 61-62
- Stress testing. See *Exercise treadmill testing*.
- Studies
 - Angioplasty Compared to Medicine (ACME) trial, 159-160
 - Cardiac Arrhythmia Suppression Trial (CAST), 66, 187
 - Coronary Artery Surgery Study (CASS), 156, 166
 - Electrophysiologic Study Versus Extended Monitoring (ESVEM) trial, 185
 - European Randomized Trial, 166
 - Medicine, Angioplasty or Surgery Study (MASS), 156-157
 - Prospective Randomized Amlodipine Survival Evaluation (PRAISE) trial, 102
 - Thrombolysis in Myocardial Infarction (TIMI) Phase II, 161-162
 - Veterans Administration Randomized Trial, 166
- Sudden cardiac death
 - cascade leading to, 28
 - risk factors for. See *Risk factors*.
 - ventricular arrhythmia and, 183-184
- Supply vs. demand model, of ischemia, 25
- Supraventricular tachycardia
 - β -blockers for, 181
 - calcium channel blockers for, 181
 - verapamil for, 103
- Survivors of myocardial infarction
 - ACE inhibitor genotype in, 28
 - β -blockers in, 88
- Sympathomimetics, ventricular arrhythmia and, 186t
- Syncope, ventricular arrhythmia and, 185
- Systolic thrill, causes of, 42

- T-wave inversion, interpretation of, in ambulatory electrocardiographic monitoring, 67
- Tachycardia
 - ambulatory electrocardiographic monitoring of, 66

atrial ventricular nodal reentry, 181
 supraventricular
 β-blockers for, 181
 calcium channel blockers for, 181
 verapamil for, 104
 ventricular. See also *Ventricular arrhythmia*.
 as indication for coronary angiography, 154
 ST-segment depression with, 51-52
 Technetium-99m, for ventriculography, 62
 Temperature exposure, provocation by, 35t, 39, 199
 Tendonitis, differential diagnosis of, 47
 Tenormin. See *Ateolol (Tenormin)*.
 Thallium uptake ratio. See also *Perfusion imaging*.
 as indication for CABG surgery, 167
 as indication for coronary angiography, 154-155
 in women, 192
 Thoracic outlet syndrome, differential diagnosis of, 47
 Thrombin, EDRF release and, 81
 Thrombolysis, gender and, 193
 Thrombolysis in Myocardial Infarction (TIMI) Phase II trial, 161-162
 Thrombosis
 cardiac mortality and, 25
 plaque rupture and, 25, 27
 vasospasm and, trigger factors for, 26-27
 Thyroid status, abnormal
 as coexisting condition, 207
 ventricular arrhythmia and, 186t
 Time of day
 angina vs. noncardiac chest pain and, 35t, 36, 40, 43
 ischemic events and, 27
 Timolol (Biocadren)
 dosage of, 92t
 pharmacokinetics of, 92t
 solubility of, 89
 Treadmill testing. See *Exercise treadmill testing*.
 Trials. See *Studies*.
 Trigger factors
 angina occurrence without, 127
 for increased myocardial oxygen demand, 26-27
 for plaque rupture, 29
 Trimipramine, 120
 Tylenol (acetaminophen), nitrate interaction with, 85

 Unstable angina
 aspirin for, 113-114
 mechanisms of, 129-130

Valium (diazepam), dosage, pharmacokinetics, and side effects of, 121t
 Vascular disease, peripheral, CABG surgery in, 169
 Vascular injury, IDDM and, 20
 Vascular resistance, calcium channel blockers and, 98
 Vasoconstriction
 anxiolytics and, 120, 122-123
 damaged endothelium and, 26, 29
 Vasodilators, β-blocker interaction with, 91
 Vasospasm
 β-blockers in, 88
 plaque rupture and, 27
 stress and, 26-27
 Vasotec. See *Enalapril (Vasotec)*.
 Vegetables
 dietary, 131
 fat calories from, 135t
 Venous pulse, distension of, 42
 Ventricular arrhythmia
 aggravation of, 187-188
 antiarrhythmic drug selection for, phases of, 185-187
 aspirin for, 183
 β-blockers for, 88, 183-185, 188-189
 calcium channel blockers for, 183
 causes of, 183, 186t
 coronary artery disease with, 183, 188
 differential diagnosis of, 186t
 during exercise treadmill testing, 51-52, 55, 129, 154, 184, 187
 family history in, 186t
 left ventricular dysfunction with, 188
 neural transmitters and, 147
 nitrates for, 183
 potassium and, 183-184, 188-189
 sudden cardiac death from, 183-184
 when to treat, 185
 Ventricular ejection fraction, 59, 63. See also *Left ventricular ejection fraction*.
 Ventricular fibrillation, coronary angiography in, 152
 Ventricular function. See also *Left ventricular entries*.
 after myocardial infarction, 61
 assessment of, indications for, 63
 decompensation of, 63
 echocardiography of, 60-61, 63
 normalcy of, in angina, 61
 Ventricular impulse, displaced, 42
 Ventricular tachycardia
 as indication for coronary angioplasty, 154
 ST-segment depression with, 51-52

Ventriculography, using radionuclide
indications for, 63
parameters of, 62

Verapamil (Isoptin, Verelan)
adverse effects of, 104
for atrial fibrillation, 178
 β -blocker interaction with, 98
contraindications to, 103
dosage of, 101t, 103-104, 206
in combination therapy, 110
intravenous, 103-104
nifedipine with, 105
pharmacokinetics of, 98-99, 101t
for Prinzmetal's variant angina, 103
tissue selectivity of, 101t

Verelan. See *Verapamil (Isoptin, Verelan)*.

Veterans Administration Randomized Trial, 166

Visken. See Pindolol (Visken).

Vitamins C and E
adverse effects of, 115
dosage of, 115, 123
plaque rupture and, 28
prophylactic, 17

Walking, provocation by, 40, 43

Walnuts, dietary, 136

Warfarin, antioxidants and, 115

Water intake, for weight loss, 137

Wolff-Parkinson-White syndrome, diltiazem in, 103

Women
affective disorders in, 193
aspirin effectiveness in, 193-195
cardiac mortality in, 191, 195
chest pain in, 191-192, 204
coexisting disorders in, 191, 195, 205
drug metabolism in, 193
exercise treadmill testing in, 192-193, 195
invasive management of angina in, 193-195

Xanax (alprazolam), dosage, pharmacokinetics, and side effects
of, 121t

Xanthelasma, 41

Zestril (lisinopril), dosage and pharmacokinetics of, 118t