

INDEX

NOTE: RLS stands for Restless Legs Syndrome.

Page numbers in *italics* refer to figures.

Page numbers followed by a *t* indicate tables.

- Abbreviations associated with RLS, 13*t*
- Actigraphy, PLM measurement by, 25*t*, 33*t*, 104-105
- Acupuncture/acupressure, 133
- ADHD (attention deficit hyperactivity disorder), 59, 225, 244
- Adverse effects of medications. See *Side effects of medications.*
- African Americans, prevalence of RLS in, 47
- Age
 - longevity of RLS patients, 86
 - PLMS and, 36, 37
 - as risk factor for RLS, 48-49, 49
- Airplane flights
 - difficulties due to RLS, 22-23, 91
 - mental alerting activities, benefits of, 131-132, 197-198
 - sedative hypnotic use for, 202
- Akathisia, 11
 - caused by SSRIs, 122
 - as mimic of RLS, 27, 28*t*, 32*t*
- Akpinar, Sevket, 139, 160, 168
- Alcohol, relationship to RLS, 120, 197
- Algorithms for RLS management, 195-211
 - daily RLS, 204
 - intermittent RLS, 196
 - refractory RLS, 206
- Alprazolam, 178-180, 179*t*
 - pregnancy risk category, 227*t*
- Alternative medical systems, 133
- Alternative medications (RLS-friendly), 125, 126*t*, 197, 208, 248*t*
- Alternative treatments, 132-134
- Amantadine, 183
- American Academy of Neurology, evidentiary review by, 256
- American Academy of Sleep Medicine (AASM), 265
 - evidentiary review by, 256
- Amitriptyline, effect on serotonin levels, 123
- Anemia
 - as causal factor in RLS, 51-52
 - laboratory evaluation for, 103
 - in RLS patients, treatment of, 221

Anticonvulsants, 140t, 163-168, 164t, 249
gabapentin, 104, 164-165, 164t, 249
 use for daily RLS, 204
 use for refractory RLS, 207
 use for secondary RLS, 222, 223, 224
other anticonvulsants, 164t, 165-168
 carbamazepine, 164t, 166, 249
 lamotrigine, 164t, 166
 levetiracetam, 164t, 166-167
 oxcarbazepine, 164t, 167
 pregabalin, 164t, 167, 224
 topiramate, 164t, 167
 valproic acid, 164t, 167-168, 249
pregnancy and breast-feeding concerns, 227t, 228
use for bipolar disorder, 249
use for daily RLS, 203, 204
use for painful RLS symptoms, 163, 203, 249
use for refractory RLS, 206, 207
use for secondary RLS, 222, 223, 224
use in combination treatments, 212

Antidepressants, 121-123
alternatives for, 248t
in combination with caffeine, 119
considerations for RLS, 121-123
contraindicated for children with RLS, 224
improvement of RLS with, 123
PLM increased by, 37t, 233
provocation/worsening of RLS with, 51, 84-85, 121-123
screening for RLS recommended prior to therapy with, 247
selective serotonin reuptake inhibitors (SSRIs), 122, 233, 247
serotonin-norepinephrine reuptake inhibitors (SNRIs), 122, 233, 248t
tricyclic antidepressants (TCAs), 123, 247

Antidizzy medications, 124
alternatives for, 126t

Antiemetic medications, 124
alternatives for, 126t
exacerbation of PLMS, 247

Antihistamines, 123-124
alternatives for, 126t
contraindicated for children with RLS, 224
worsening of RLS with, 123-124, 177, 249

Antinausea medications, 124
alternatives for, 126t
contraindicated for children with RLS, 224

Anxiety
 benzodiazepines for, 178
 disorders
 comorbidity with RLS, 241-244, 243t
 as mimic of RLS, 28t, 32t
 in RLS patients, 16
 job-related consequences of, 90
 symptoms, in RLS patients, 27, 84-85, 241-244

Apnea. See *Sleep apnea*

Apomorphine, 142t, 160
 use during surgery, 230

Approaching the RLS patient. See *Management of RLS*

Aripiprazole, 247, 248t

Arm symptoms, 21, 31, 34-35

Arthritic conditions
 as causal factors in RLS, 52
 as RLS mimics, 29t, 32t
 specialists for (rheumatologists), 254t

Attention deficit hyperactivity disorder (ADHD), 59, 225, 244

Augmentation, 140, 141t, 150, 154-159
 afternoon or non-evening symptoms with, 26-27
 diagnosis and evaluation of, 156-158
 diagnostic criteria, 151t
 differential diagnosis, 157, 157t
 intermittent medication use for avoidance of, 200, 222
 treatment of, 158-159

Autoimmune factors, screening for, 103

Avocational impairment by RLS, 86-87

Ayurveda, 133

B₁₂, vitamin
 deficiency, 48t, 103
 as RLS therapy, 183

“Bag of tricks” for RLS management, 197-198

Bandolier website, 265

Basal ganglia, involvement in RLS, 68t

Bed partner issues, 88, 129, 231-232

Bedtime RLS, 79-80, 81, 199-201
 evening or night worse symptoms, 24-27
 frequent, 197t, 201
 infrequent, 197t, 199-200

Benserazide, L-dopa combined with, 150, 152, 200

Benzodiazepines, 178-182, 179t
 alprazolam, 178-180, 179t
 clonazepam, 177, 179t, 180-181, 249

- Benzodiazepines (*continued*)
- concerns for RLS treatment, 124-125
 - cross-tolerance among, 214
 - intermittent use of, 213
 - placebo effect and, 177
 - pregnancy and breast-feeding concerns, 227t, 228
 - temazepam, 179t, 181
 - triazolam, 179t, 181
 - use for insomnia, 249
 - use for intermittent RLS, 196
 - use for periodic limb movement disorder (PLMD), 233-234
 - use for uremic RLS, 223
- Berger's disease, as RLS mimic, 29t
- Biologically based therapies, 134
- Bipolar disorders, medications for, 121, 249
- Books on RLS, 264-265
- Botulinum toxin type-A, 183
- Brain structure, studies in RLS, 67-69, 68t
- Brain Talk Communities, 268
- Brainstem, involvement in RLS, 68t
- Breast-feeding, RLS treatment/medication considerations, 228
- Bromocriptine, 142t, 160
- echocardiogram monitoring recommended for, 159-160
 - side effects of, 159-160
- Bupropion, 233, 245, 247, 248t, 249
- Cabergoline, 142t, 153, 160-161
- cost of, 228
 - echocardiogram monitoring recommended for, 159-160
 - fibrosis linked to, 159, 161
 - half-life of, 142t, 153, 155, 161
 - low incidence of augmentation, 155
 - pregnancy risk category, 227t
 - side effects of, 159-160, 161
 - use for refractory RLS, 211
- Caffeine, 119, 197, 224
- CAM (complimentary and alternative medicine), 133-134
- Carbamazepine, 164t, 166, 249
- pregnancy risk category, 227t
- Carbidopa, L-dopa combined with, 150, 152, 200
- Cardiovascular disease
- PLMS as a risk factor for, 39
 - in RLS patients, 16, 85
- Career choice, RLS and, 89
- Catechol-*O*-methyl transferase (COMT) inhibitors, 152-153
- Central nervous system (CNS). See *Nervous system involvement in RLS.*
- Cerebellum, involvement in RLS, 68t, 69
- Children, RLS in, 58-59, 224-225
- course of RLS, 55
 - diagnosis of RLS
 - criteria for, 58-59, 60t
 - family history and, 42
 - probable or possible RLS diagnosis, 59, 61t
 - pediatricians/specialists, 254t, 255
 - prevalence of RLS, 15, 49, 254t
 - treatment/medication considerations, 224-225
- Chinese medicine, 133
- Chiropractic medicine, 134
- Chlordiazepoxide, 179t
- Chocolate, dietary restriction for children with RLS, 224
- Chronicity of RLS, 55-58
- Cigarette smoking, relationship to RLS, 51, 120-121, 197
- Cimetidine, effect on elimination of pramipexole, 146
- Ciprofloxacin, effect on ropinirole metabolism, 147
- Circadian rhythm, 69-70, 127-128
- diagnostic questions about, 30t
 - of dopamine, 70, 72
 - of RLS symptoms, 24-26, 26t, 69-70, 127
 - sleep hygiene and, 127-128
- Citalopram, worsening of RLS symptoms with, 122
- Classification of RLS patients, 115-116, 115t
- Clinical Global Impression (CGI), 99, 100t
- Clinical picture of RLS, 54-58, 256
- chronicity of RLS, 55-58
 - course of RLS, 55-58, 114, 209
 - spectrum of severity, 54-55
- Clomipramine, effect on serotonin levels, 123
- Clonazepam, 177, 179t, 180-181, 249
- approved for children (seizure treatment), 225
 - dosage for, 179t, 180
 - half-life of, 179t, 249
 - pregnancy risk category, 227t
 - use for periodic limb movements (PLM), 233
 - use for uremic RLS, 223
 - use in children with RLS, 225
- Clonidine, 183
- pregnancy risk category, 227t
 - use in children with RLS, 225

Clorazepate, 179t
 Clozapine, 247
 onset of RLS linked with, 121
 CNS iron, involvement in RLS, 70-74, 71t, 72-73, 256
 Codeine, 170t, 172
 pregnancy risk category, 227t
 Cognitive function, sleep deprivation effects on, 84
 Cognitively impaired elderly, 59-60, 62t
 Cold and cough remedies, worsening of RLS with, 124
 Combination treatment, 206, 209, 212-213
 Complimentary and alternative medicine (CAM), 133-134
 Compulsive behavior, dopaminergic medications and, 150, 210
 COMT (catechol-*O*-methyl transferase) inhibitors, 152-153
 Concentration, effects of sleep deprivation on, 84
 Confined spaces, exacerbation of RLS by, 22-23, 91
 Consequences of RLS, 79-92
 avocational impairment, 86-87
 impact on daytime function, 83-84
 concentration and cognition, 84
 fatigue and daytime sleepiness, 83-84
 impact on general health, 85-86
 impact on mood, 84-85
 impact on sleep, 79-80, 81-82
 difficulty getting to sleep, 79-80, 81
 difficulty maintaining sleep, 80, 82
 impact on travel, 91
 intimacy (spousal/bed partner issues), 88, 129, 231-232
 occupational consequences, 88-91
 disability, 90-91
 impact on job performance and selection, 89-90
 relationships with friends and family, 87-88
 Core body temperature, circadian pattern of, 25, 26t
 Cortex, involvement in RLS, 67, 68t
 Counterstimulation techniques, 130, 132
 Course of RLS, 55-58, 114, 209
 Cramps, as mimics of RLS, 27, 29t, 32t
 Cromolyn, 126t
 CT scans, medication for, 230
 Cyberspace RLS Support Group, 268
 CYP1A2 inhibitors, 147
 Daily RLS, 115t, 116, 203-204
 defined, 203
 treatment approach, 203-204
 algorithm for management, 204
 medications, 203-204, 204
 Daytime function, impact of RLS on, 83-84
 Daytime sleepiness, 16, 83-84, 90
 benzodiazepines and, 125
 Delusional parasitosis (Ekblom's syndrome), 241
 Demerol, pregnancy risk category, 227t
 Demographic factors for RLS, 48-53, 49-50
 Dependence, opioid medications and, 169
 Depression. *See also Antidepressants.*
 co-morbidity with RLS, 241-244, 243t
 diminished dopaminergic transmission in, 245
 job-related consequences of, 90
 major depressive disorder (MDD), 242, 243-246, 243t
 in RLS patients, 16, 84-85, 241-244
 Desipramine, 248t
 Desloratadine, 126t
 Diabetes
 as causal factor in RLS, 48t, 52
 laboratory screening for, 103
 Diabetic neuropathy
 as causal factor in RLS, 52
 as RLS mimic, 29t
 Diabetic small-vessel disease, as RLS mimic, 29t
 Diagnosis of augmentation, 151t, 156-158, 157t
 Diagnosis of RLS, 19-45, 93-109
 avoiding misdiagnosis, 27-30, 30t-32t
 circadian pattern of RLS, 24-26, 26t
 diagnostic instruments, 93-94
 Epidemiologic Questionnaire, 95t
 Hopkins Telephone Diagnostic Interview (HTDI), 93-94
 Validated Patient-Completed Questionnaire, 96-97t
 diagnostic questions, 30t-31t, 93-94, 95t-97t
 differential diagnosis, 27-30
 mimics of RLS, 27, 28t, 29t, 32t
 periodic limb movement disorder (PLMD), 39, 41t
 questions to ask, 29, 30t-31t
 specific issues in, 32t
 four diagnostic features (**URGE**), 19-27, 20t, 93
 Evening or night worse, 24-27
 Gets better with (relieved by) movement, 23-24

Diagnosis of RLS, four diagnostic features (**URGE**) (*continued*)
 presence of all four required, 19, 27-28
 questions to elucidate, 30t
 Rest induced, 20t, 22-23
 Urge to move the legs, 19-22, 20t
initial work-up, 94t
laboratory evaluation, 103-105, 105t-106t
pain as a descriptor, 21-22
patient history, 19, 29, 30t-31t, 94t
physical examination, 94t, 101-103
quality of life (QOL) evaluation, 100-101, 102
rating scales for RLS, 95-100
 Clinical Global Impression (CGI), 99, 100t
 International RLS Study Group Rating Scale, 99, 259-262
 Johns Hopkins Rating Scale, 95-99, 99t
 Patient Global Impression, 99
 RLS-6 Scales, 99-100, 101t
sleep diaries, 94-95, 98
special populations
 children, 58-59, 60t
 cognitively impaired elderly, 59-60, 62t
 patients with secondary disorders, 60-63
suggested immobilization test (SIT), 24-25, 25t, 38, 104, 107
supportive diagnostic features, 19, 30-42, 33t
 family history, 41-42
 periodic limb movement disorder (PLMD), 38-39, 40t-41t
 periodic limb movements (PLM), 31-38, 33t-35t, 37t
 response to dopaminergic medications, 39-41
Diazepam, 179t
Dietary/nutritional considerations for RLS, 118-121, 197, 224
Dietary supplements, 183
Differential diagnosis, 27-30. See also *Diagnosis of RLS*.
Diltiazem, effect on elimination of pramipexole, 146
Diphenhydramine, worsening of RLS with, 123-124, 177, 249
Disability, 90-91
Dizziness
 alternative medications for, 126t
 medications for, 124
 as side effect of dopaminergic medications, 149, 209
Dolasetron mesylate, 126t
Domperidone, 126t, 210
Dopamine
 A11 dopamine system, 71t, 74
 circadian rhythm of, 70, 72

Dopamine (*continued*)
 D₁ receptors, 154
 D₂ receptors, 70, 154, 245
 iron-dopamine hypothesis for causation of RLS, 70-74, 71t, 72-73
Dopaminergic medications, 139-163. See also *specific medications*.
 alternatives to, 126t, 255-256
 approved medications, 139, 142t, 143-150
 dopamine agonists, 140-163, 142t
 augmentation rates with, 155
 changing, 209, 211, 214
 in combination therapy, 207-208, 209
 ergot-derived, 142t, 159-161, 222
 extra doses for daytime symptoms, 211
 intolerable side effects and, 209-210
 pramipexole, 143-146, 144-145
 ropinirole, 146-148, 148-149
 tolerance potential of, 213, 214
 use as pretreatment for outpatient procedures, 230
 use concerns for pregnant and breast-feeding women, 227t, 228
 use for children with RLS, 225
 use for daily RLS, 203, 204
 use for depressive disorders, 246
 use for intermittent RLS, 196, 197t, 201
 use for periodic limb movement disorder (PLMD), 233
 use for refractory RLS, 206, 207
 use for uremic RLS, 222
effect on motor pathway excitation/inhibition, 67
L-dopa, 139-140, 150-153. See also *L-dopa, main index entry for*.
 pregnancy risk categories, 227t
 response to, RLS diagnosis and, 39-41
 side effects of, 141t, 148-150
 augmentation and rebound, 140, 141t, 150, 153-159, 157t
 domperidone for, 210
 fibrosis, 141t, 159, 160, 222
 intolerable side effects, 209-210
 tolerance, 157-158
 unapproved medications (unapproved for RLS), 142t, 159-163
Doxepin, effect on serotonin levels, 123
Doxylamine, worsening of RLS with, 124
Drug holidays, 206, 213

- Drug interactions, 59-60, 229
- Drugs. See *Medications*.
- Duloxetine, worsening of RLS reported for, 122
- Echocardiogram monitoring, for ergot-derived dopamine agonists, 159-160
- Education and support groups for RLS, 135, 198, 263-268
- Ekbom, Karl, naming and description of RLS, 11, 14, 241
- Ekbom's syndrome (delusional parasitosis), 241
- Elderly patients, 59-60, 228-229
- cognitively impaired, RLS/RLS diagnosis in, 59-60, 62t
 - difficulty achieving relief-giving movement, 23
 - drug interaction/multiple drug considerations, 59-60, 229
 - frequency of PLMS in, 36, 37
 - prevalence of RLS in, 48t-49t
 - treatment concerns, 228-229
- Electromagnetic field therapies, 134
- Electromyogram (EMG), 33t, 104
- RLS medications as pretreatment for, 230
- Employment-related consequences of RLS, 88-91
- End-stage renal disease (ERSD), uremia and RLS in, 221-223
- Endocrinologists, 254t
- Endogenous opiate system, 74, 168. See also *Opioid medications*.
- Energy therapies, 134
- Entacapone, 152
- Epidemiologic Questionnaire for RLS, 95t
- Epidemiology of RLS, 47-53
- comorbidity of psychiatric disorders, 242-244
 - risk factors for RLS, 48-51, 48t
 - secondary RLS, 51-53
- Ergot alkaloid-derived medications, 142t, 159-161, 222
- Erythropoietin therapy, 222
- Estazolam, 179t
- Estrogens, effect on ropinirole metabolism, 147
- Eszopiclone, 180t, 182
- pregnancy risk category, 227t
- European Federation of Neurological Societies, evidentiary review by, 256
- Evening or night worse (diagnostic feature), 24-27
- Exercise, 130-131, 198
- lack of, as RLS risk factor, 48t
- Family, effects of RLS on relationships, 87-88
- Family history of RLS, 41-42, 51, 242
- augmentation rates and, 156
 - familial aggregation of RLS, 53-54
- Fatigue, 83-84
- Fatigue Severity Scale, 83
- Females, prevalence of RLS in, 49-51, 50
- Fentanyl, 170t, 174
- pregnancy risk category, 227t
- Ferritin, 103
- serum ferritin level, 199, 208, 220, 224
 - in pregnancy, 226
 - response to iron therapy and, 220
 - RLS severity and, 220
- Fexofenadine, 126t
- Fibromyalgia
- as causal factor in RLS, 52
 - as RLS mimic, 29t
- Fibrosis, dopamine agonists and, 141t, 159, 160, 222
- Fluoxetine, worsening of RLS symptoms with, 122
- Flurazepam, 179t
- fMRI (functional magnetic resonance imaging) studies, 67-69, 68t
- Folic acid, 183, 226
- Friends, effects of RLS on relationships, 87-88
- Functional magnetic resonance imaging (fMRI) studies, 67-69, 68t
- Future trends in RLS treatment and research, 255-256
- Gabapentin, 104, 164-165, 164t, 249
- dosage for, 164t, 165, 223
 - half-life of, 165
 - pregnancy and breast-feeding concerns, 227t, 228
 - prodrug, development of, 256
 - use for daily RLS, 204
 - use for periodic limb movement disorder (PLMD), 233
 - use for refractory RLS, 207, 209
 - use for uremic RLS, 222, 223
- Gastric resection, RLS and, 48t
- Gender, as risk factor for RLS, 49-51, 50
- Genetic factors in RLS, 53-54, 242, 256
- depressed CNS iron and, 72
 - familial aggregation of RLS, 53-54
 - family history of RLS, 41-42

Genetic factors in RLS (*continued*)
 genes associated with RLS, 36, 54, 56-57t
 linkage and association analyses, 54, 56-57t
 segregation analyses, 54

Gets better with/relieved by movement (diagnostic feature), 23-24

Granisetron hydrochloride, 126t

Gynecologists, 254t

Hallucinations, dopaminergic medications and, 149, 210

Haloperidol, onset of RLS linked with, 121

Health, general, impact of RLS on, 85-86

HealthBoard.com, 268

Heart
 damage, PLM associated with, 231
 failure, PLMS in, 37t
 fibrotic valvular damage, dopamine agonists and, 159, 161

Hematologists, 254t

Hemochromatosis, 221

Herbs, 134

History
 family, positive for RLS, 41-42, 51, 53-54, 242
 patient, 19, 29, 30t-31t, 94t

Homeopathic medicine, 133

Hopkins Telephone Diagnostic Interview (HTDI), 93-94

Hydrocodone, 170t, 173
 pregnancy risk category, 227t
 use for intermittent RLS, 200

Hydromorphone, 170t, 175
 pregnancy risk category, 227t

Hydroxyzine, reports of worsening RLS with, 124

Hyperparathyroidism, secondary RLS in, 224

Hyperprolactinemia
 lisuride for, 161
 terguride for, 163

Hypertension, in RLS patients, 16, 85

Hypnic myoclonus, 28t

Hypnotics. *See Sedative hypnotics.*

Hypothyroidism, RLS and, 48t

Imaging studies, nervous system involvement in RLS, 67-69, 68t

Imipramine, effect on serotonin levels, 123

Immobilization test. *See Suggested immobilization test (SIT).*

Incidence of RLS, 47-53
 percentage of general population, 14-15

Insomnia, 80
 conditioned insomnia, 178
 as side effect of dopaminergic medications, 149, 210
 treatment with sedative hypnotics, 177-178, 223

Intermittent RLS, 115, 115t, 195-203
 defined, 195
 treatment approach, 195-203
 algorithm for management, 196
 bedtime RLS, frequent, 197t, 201
 bedtime RLS, infrequent, 197t, 199-200
 daytime RLS, expected, 197t, 201-202
 daytime RLS, unexpected, 197t, 202
 drug therapy/medications for, 196, 197t, 199-203
 nonpharmacologic therapies, 196, 196, 197-199
 one drug fits all needs, 202-203

International RLS Rating Scale (IRLS), 99, 259-262
 effectiveness of pramipexole, 144
 effectiveness of ropinirole, 148

International RLS Study Group
 evidentiary review by, 256
 four diagnostic features (**URGE**), 19, 30

Internists, 254t

Intimacy (spousal/bed partner issues), 88, 129, 231-232

Involuntary component of RLS, 11

Ipratropium, 126t

IRLS. *See International RLS Rating Scale (IRLS).*

Iron
 deficiency
 as causal factor in RLS, 51-52
 dopamine and CNS iron, 70-72, 71t, 72-73, 256
 as predisposing factor for augmentation, 154
 as risk factor for RLS, 48t, 51
 secondary RLS due to, 219-221
 treatment resistance and, 103
 treatments for, 52, 220-221
 work-up for, 103
 ferritin as measure of, 103
 serum ferritin level, 199, 208, 220, 224, 226
 iron-dopamine hypothesis for causation of RLS, 70-74, 71t, 72-73
 status, laboratory evaluation for, 103
 therapy, 52, 220-221
 for children with RLS, 224-225
 for intermittent RLS, 199

- Iron, therapy (*continued*)
 iron repletion, 221
 oral iron supplementation, 220-221
 in pregnancy, no benefit shown, 226
 pretreatment serum ferritin as indicator of response to, 220
 for refractory RLS, 208
 for secondary/uremic RLS, 222
- Johns Hopkins Center for RLS, 265
 Johns Hopkins RLS Rating Scale (JHRLSS), 95-99, 99t
 Johns Hopkins RLS Severity Scale, 55, 58t
- Kidney transplantation, improvement of RLS after, 183-184, 221
- L-dopa, 139-140, 150-153
 dosage for, 140, 152
 extending with COMT inhibitors, 152-153
 formulations, 150-152
 combined with carbidopa or benserazide, 150, 152, 200
 immediate-release, 150-151
 half-life of, 153
 intermittent use to avoid augmentation, 200, 222
 onset of action, 150-151, 200, 211, 212
 pregnancy risk category, 227t
 side effects of, 140, 141t, 158-159
 augmentation, 140, 153-159, 255
 rebound, 158-159
 stopping L-dopa therapy, 158-159
 narcotic use for, 158-159
 replacement therapy, 158
 use as pretreatment for outpatient procedures, 230
 use for children with RLS, 225
 use for intermittent RLS, 196, 197t, 200, 201, 202-203
 use for periodic limb movement disorder (PLMD), 233
 use for uremic RLS, 222
- Laboratory evaluation for RLS, 94t, 103-105, 105t-106t
 Lamotrigine, 164t, 166
 Laudanum, used for RLS, 14
- Legs
 counterstimulation techniques, 130, 132
 evaluation during physical exam, 101-103
 leg cramps, 27, 29t, 32t
 leg discomfort, disorders of, 27, 29t, 32t
 leg symptoms with toe dyskinesias, 28t, 32t
- Legs (*continued*)
 location of sensations, 20-21
 urge to move, as diagnostic feature, 19-22
- Levetiracetam, 164t, 166-167
- Levodopa. See *L-dopa*.
- Levorphanol, 170t, 175
 pregnancy risk category, 227t
- Lifestyle factors in RLS, 49, 51
- Lifestyle modifications for management of RLS. See *Nonpharmacologic management of RLS*.
- Lisuride, 142t, 161
 absence of fibrosis reports for, 160, 161
 side effects of, 159
- Lithium
 exacerbation of RLS/PLMS reported for, 249
 onset of RLS linked with, 121
- Loratadine, 126t
- Lorazepam, 179t
 worsening of RLS with, 125, 177
- Lung transplant, RLS and, 48t
- Machado-Joseph disease, RLS and, 48t
- Magnesium
 deficiency, RLS and, 48t
 as RLS therapy, 183
- Magnetic field therapies, 134
- Major depressive disorder (MDD), 242, 243-246, 243t
- Management of RLS, 111-138. See also *Medications*;
Treatment of RLS.
 approaching the patient, 195-217
 combination treatment, 206, 209, 212-213
 drug holidays, 206, 213
 individualized treatment, 211
 patients with daily RLS, 203-204, 204
 patients with intermittent RLS, 195-203, 196, 197t
 patients with refractory RLS, 205-211, 206
 referrals, 214-216
 rotating treatment, 206, 213-214
- classification of RLS patients, 115-116, 115t
 daily RLS, 115t, 116
 intermittent RLS, 115, 115t
 refractory RLS, 115t, 116
 dietary and nutritional considerations, 118-121, 197, 224
 future trends in, 255-256

- Management of RLS (*continued*)
- lifestyle modifications, 117-138, 118t, 197-199
 - medications. See *Medications*.
 - nonpharmacologic management, 117-138, 118t, 197-199. See also *Nonpharmacologic management of RLS*.
 - special populations. See *Special populations*.
 - tailoring treatment to symptoms, 111-115
 - following the patient, 114
 - frequency and severity of symptoms, 113-114
 - timing of symptoms, 113
 - when to treat?, 111-112, 112t
- Mania, 28t
- Manipulative methods, 134
- Massage, as relief-giving activity, 23, 130, 132, 134
- MDD. See *Major depressive disorder (MDD)*.
- Meclizine, reports of worsening RLS with, 124
- Medical-alert card for RLS, 197
- Medical Outcome Scales for Sleep (MOS), 95
- Medications. See also *specific medications and drug classes*.
- alternative, RLS-friendly, 125, 126t, 197, 208, 248t
 - anticonvulsants, 140t, 163-168, 164t, 249
 - gabapentin, 104, 164-165, 164t, 249
 - approved for RLS, 139, 140, 142t, 143-150
 - dopaminergics, 139-163, 140t
 - augmentation and rebound, 140, 141t, 150, 153-159, 157t
 - dopamine agonists, 140-163, 142t
 - pramipexole, 143-146, 144-145
 - ropinirole, 146-148, 148-149
 - L-dopa, 139-140, 150-153
 - side effects of, 141t, 148-150
 - drug classes used in RLS, 140t
 - drug interactions, 59-60, 229
 - evidentiary reviews, 256
 - future trends, 255-256
 - opioids, 140t, 168-176, 170-171t
 - side effects of, 169-172
 - for other conditions, considerations for RLS, 121-125, 126t
 - other pharmacologic options, 183
 - patient approaches
 - combination treatment, 206, 209, 212-213
 - daily RLS, 203-204, 204
 - drug holidays, 206, 213
 - individualized treatment, 211
 - intermittent RLS, 196, 197t, 199-203
- Medications, patient approaches (*continued*)
- refractory RLS, 206, 207-211
 - rotating treatment, 206, 213-214
 - pregnancy and breast-feeding, 227-228, 227t
 - prophylactic use of, 201
 - for surgeries, 230-231
 - psychiatric, 121-123, 246-249
 - more RLS-friendly, 248t
 - sedative hypnotics, 140t, 176-184, 179t-180t
 - benzodiazepines, 178-182, 179t
 - nonbenzodiazepines, 180t, 182-183
 - side effects of. See *Side effects of medications; and specific medications*.
 - surgery and, 183-184, 229-231
 - treatment decisions and, 111-115
 - unapproved medications for RLS, 142t, 159-163
- Melanoma risk, dopaminergic medications and, 149
- Melatonin, RLS and, 25, 69
- Mental alerting activities, 23, 131-132, 197-198
- Meperidine, 170t, 172
- Methadone, 170t, 175-176
 - pregnancy risk category, 227t
 - use in pregnant and breast-feeding women, 228
- Metoclopramide, worsening of RLS with, 124, 247
- Mimics of RLS, 27, 28t-29t, 32t
 - questions to differentiate RLS from, 31t
- Mind-body interventions, 134
- Mirtazapine, 122-123, 247
- Misdiagnosis, avoiding, 27-30, 30t-32t. See also *Diagnosis of RLS*.
- Mononeuropathy, neurologic exam for, 103
- Montelukast, 126t
- Mood. See also *Anxiety; Depression; Psychiatric disorders*.
- effect of RLS on, 84-85
 - mood disorders
 - comorbidity with RLS, 16, 242-244
 - treatment of, 246-249, 248t
- Morbidities associated with RLS, 15-17, 242-244
- Morphine, 170t, 176
 - for PLM control during surgery, 230
 - pregnancy risk category, 227t
- Motor component of RLS, 11-12
- Movement Disorder Society, evidentiary review by, 256

Movements. See also *Periodic limb movements (PLM)*;
Periodic limb movements in sleep (PLMS).
 involuntary component, 11-12
 mental activity as relief-giving, 23
 movement disorders, 28t
 relief of symptoms with, 23-24
 questions to elucidate diagnosis, 30t
 repetitive movement habits, 28t
 rhythmic movement disorders, 28t
 sensory activity as relief-giving, 23
 voluntary component, 11, 74

Movies
 medication use and, 201-202
 RLS effects and, 86-87

MRI scans, medication for, 230

Multiple sclerosis, RLS and, 48t

Naloxone, reversal of opioid effectiveness, 74, 168

Narcolepsy, PLMS in, 36, 37t

National Heart, Lung, and Blood Institute (NHLBI), 266

National Institute of Neurological Disorders and Stroke (NINDS), 266

National Institutes of Health (NIH), 265

National Sleep Foundation, 268

Naturopathic medicine, 133

Nausea
 alternative medications for, 126t
 medications for, 124, 224
 as side effect of dopaminergic medications, 149, 209

Nefazodone, 248t

Nerve disorders, as RLS mimics, 29t, 32t

Nerve dysfunction, screening for, 103-104

Nervous system involvement in RLS, 67-78
 nervous system dysfunction, 67-70, 68t
 circadian rhythms, 69-70
 electrophysiologic studies, 67
 imaging studies, 67-69
 neurotransmitter systems, 70-74
 dopamine and CNS iron, 70-74, 71t, 72-73
 other systems/endogenous opiate system, 74

Neuroleptic drugs
 alternatives for, 248t
 considerations for RLS, 121

Neurologic exam, 103

Neurologists, 215, 254t, 255

Neuropathies
 anticonvulsants for, 163, 224
 as causal factors in RLS, 52
 as RLS mimics, 29t

Neurotransmitter systems, 70-74, 245-246

Nicotine/cigarette smoking, 120-121, 197

Night walking, 79, 80, 83

NightWalkers (newsletter), 135, 266

Nonpharmacologic management of RLS, 117-138, 197-199.
 See also *Medications*.
 alternative treatments, 132-134
 alternative medical systems, 133
 complimentary and alternative medicine (CAM), 133-134
 avoidance of provocative substances, 118-125, 118t, 197
 “bag of tricks,” 197-198
 considerations for medications, 121-125
 antidepressants, 121-123
 antihistamines, 123-124, 224
 anti-nausea, antiemetic, and antidizzy medications, 124
 neuroleptic drugs, 121
 RLS-friendly alternative drugs, 125, 126t, 197, 208, 248t
 counterstimulation techniques, 130, 132
 dietary and nutritional considerations, 118-121, 197
 alcohol, 120, 197
 caffeine, 119, 197, 224
 chocolate, 224
 tobacco, 120-121, 197
 exercise, 130-131, 198
 iron therapy, 199
 mental alerting activities, 131-132
 sleep hygiene, 125-130
 summary list, 118t
 use for intermittent RLS, 196, 196t, 197-199
 use for uremic RLS, 222

Nutritional considerations for RLS, 118-121, 197, 224

Obesity, and RLS, 48t, 51

Obsessive-compulsive disorder, 28t

Obstetricians, 254t

Obstructive sleep apnea
 PLMS in, 37t
 worsened with opioid medications, 169

Occupational consequences of RLS, 88-91

Olanzapine
exacerbation of RLS-like symptoms, 247
onset of RLS linked with, 121
Oncologists, 254t
Ondansetron hydrochloride, 126t
Opioid medications, 74, 140t, 168-176, 170-171t
addiction, potential for, 172
combined with acetaminophen, aspirin, or ibuprofen, 169
endogenous opiate system and, 74, 168
formulations of, 168-172, 170-171t
high-potency, 174-176
fentanyl transdermal patches, 170t, 174
hydromorphone, levorphanol, and oxymorphone, 170-171t, 175
methadone, 170t, 175-176
morphine, 170t, 176
oxycodone, 170t, 176
use for refractory RLS, 206, 207-208
use for surgeries, 230-231
use in pregnant women, 228
intermittent use, 213
low-potency, 172
codeine, 170t, 172
propoxyphene, 171t, 172
use for daily RLS, 203-204, 204
use for intermittent RLS, 196, 200, 201, 202
medium-potency, 173-174
hydrocodone, 170t, 173
tramadol, 171t, 173-174
use for daily RLS, 204, 204
use for intermittent RLS, 200
use for refractory RLS, 206
onset of effective action, 169
parenteral, for surgeries/outpatient procedures, 230-231
pregnancy and breast-feeding concerns, 227t, 228
prophylactic use, 201
pure form, desirability of, 169
reversal of therapeutic effect with naloxone, 74, 168
side effects of, 169-172
tolerance
cross-tolerance among opioids, 214
and dependence potential, 169, 172, 213
use for intermittent RLS, 196, 197t, 200, 201, 202-203
use for postoperative symptoms, 230

Opioid medications (*continued*)
use for quick onset/action, 212
use for refractory RLS, 206, 207-208, 209, 210
use for sporadic daytime symptoms, 211
use for surgery, PLM control and RLS symptoms, 230-231
use for uremic RLS, 223
Osteoarthritis, as RLS mimic, 29t
Osteopathic manipulation, 134
Outpatient procedures, 230-231
Oxazepam, 179t
Oxcarbazepine, 164t, 167
Oxycodone, 170t, 176
pregnancy risk category, 227t
use in pregnant women, 228
Oxymorphone, 171t, 175

Pain

as component of RLS symptoms, 22, 74
pain syndromes, as RLS mimics, 29t, 32t
painful neuropathies, anticonvulsants for, 163, 224
painful RLS symptoms
anticonvulsants for, 163, 203, 249
gabapentin for, 164, 203, 207, 249
opioids for, 74, 169
postsurgical, opioids for, 230
RLS symptoms differentiated from, 21-22, 31t
Panic disorder, comorbidity with RLS, 242, 243-244, 243t, 246
Parathyroidectomy, secondary RLS relieved by, 224
Parkinson's disease
comorbidity of MDD and panic disorder, 246
COMT inhibitors for, 153
drugs used in treatment of, 53, 70, 160-162. See also
Dopaminergic medications.
melanoma incidence in, 149
PLMS in, 37t
relationship to RLS, 48t, 53
surgeries for, improvement of RLS after, 184
Paroxetine, worsening of RLS symptoms with, 122
Pathophysiology of RLS, 67-78
dopamine and CNS iron, 70-74, 71t, 72-73
nervous system dysfunction, 67-70, 68t
neurotransmitter systems, 70-74
other systems/endogenous opiate system, 74
Patient approaches. See *Management of RLS.*

- Patient history, 19, 29, 30t-31t, 94t
- Patient organizations and support groups, 135, 266-268
- PCP. See *Primary care physician (PCP)*.
- Pediatric RLS, family history in diagnosis of, 42
- Pediatricians, 254t, 255
- Pentazocine, 171t, 172
- Pergolide, 142t, 161
 - dosage for, 142t, 222
 - echocardiogram monitoring recommended for, 159-160
 - fibrosis linked to, 159
 - pregnancy risk category, 227t
 - side effects of, 159-160
 - use for periodic limb movement disorder (PLMD), 233
 - use in uremic RLS, 222
 - withdrawn from US market, 161, 228
- Periodic limb movement arousal index (PLMAI), 13t
- Periodic limb movement disorder (PLMD), 38-39, 231-234
 - defined, 13t
 - diagnostic criteria, 40t
 - differences from RLS, 39, 41t
 - medications for, 233-234
 - preclusion of RLS by, 39, 41t
 - treatment considerations, 231-234
- Periodic limb movement index (PLMI), 13t
- Periodic limb movements (PLM), 11-12. See also *Periodic limb movement disorder (PLMD)*; *Periodic limb movements in sleep (PLMS)*; *Periodic limb movements in wake (PLMW)*.
 - actigraphic measurement of, 25t, 33t, 104-105
 - age and, 36, 37
 - antidepressants, increase of PLM from, 122, 233
 - association with RLS, 31, 36-38
 - categories of patients experiencing, 231-233
 - in childhood RLS, 225
 - criteria for, 13t, 33t
 - defined, 13t
 - diagnosis of, 33t
 - in diagnosis of RLS, 31-39, 33t, 104-105
 - diagnostic utility of PLM, 36-38
 - electromyogram (EMG) measurement of, 33t
 - epidemiology of, 36, 37
 - genetic factors and, 36
 - intervals, typical, 31, 34-35
 - management of patients with, 231-234
 - measurement/detection of, 33t, 38
- Periodic limb movements (PLM) (*continued*)
 - medications for, 232-234
 - during surgery/outpatient procedures, 230-231
 - pramipexole, 143-145, 145, 225, 233
 - ropinirole, 146-147, 149, 233
 - sedative hypnotics, 178
 - polysomnographic measurement of, 38, 104, 105t-106t
 - spousal/bed partner issues, 88, 129, 231-232
 - in surgery/outpatient procedures, 229-231
 - treatment considerations, 231-234
 - in uremic RLS, 63
- Peripheral nervous system, involvement in RLS, 67, 68t, 69
- Periodic limb movements in sleep (PLMS), 11, 31-36
 - in ADHD, 244
 - age and, 36, 37
 - clinical significance of, 38-39
 - conditions having frequent PLMS, 37t
 - defined, 13t
 - effectiveness of gabapentin for, 164
 - intervals, typical, 31, 34-35
 - polysomnogram measurement of, 38, 104, 105t-106t
 - prevalence of, 246-247
 - psychiatric medications, effect on, 246-249
 - sleep stages and, 31-33
- Periodic limb movements in wake (PLMW), 33, 38
 - defined, 13t
 - fMRI of brain activity during, 69
- PET (positron emission tomography), 69
- Pharmacologic treatment. See *Medications*.
- Physical examination, 94t, 101-103
- Physicians
 - primary care physician, 15, 214-216, 253-255
 - specialists, 15, 205, 214-216, 254t, 255
- Pimozide, onset of RLS linked with, 121
- Piribedil, 142t, 162
- Pittsburgh Sleep Quality Index, 95
- PLM. See *Periodic limb movements (PLM)*.
- PLMAI. See *Periodic limb movement arousal index (PLMAI)*.
- PLMD. See *Periodic limb movement disorder (PLMD)*.
- PLMI. See *Periodic limb movement index (PLMI)*.
- PLMS. See *Periodic limb movements in sleep (PLMS)*.
- PLMW. See *Periodic limb movements in wake (PLMW)*.
- Polyneuropathies
 - as causal factors in RLS, 48t, 52

- Polyneuropathies (*continued*)
 neurologic exam for, 103
 as RLS mimics, 29t
- Polysomnogram (PSG), 104, 105t, 232
 typical findings, 106t
 utility in RLS diagnosis, 38, 104
- Positron emission tomography (PET), 69
- Pramipexole, 140t, 142t, 143-146, 159
 approval for RLS, 139, 140, 143, 255
 and augmentation, 155, 157
 dosage for, 142t, 146, 222, 225
 drugs that reduce elimination of, 145-146
 efficacy and safety, 143-145, 144-145
 half-life of, 142t, 145-146, 153
 onset of effective action, 146
 pregnancy risk category, 227t
 side effects of, 141t, 148-150, 153
 use for children with RLS, 225
 use for daily RLS, 203, 204
 use for periodic limb movement disorder (PLMD), 233
 use for refractory RLS, 206
 use for uremic RLS, 222
- Pregabalin, 164t, 167
 use for secondary RLS, 224
- Pregnancy, 49-51, 52, 226-228
 as causal factor in RLS, 52
 remittance of RLS symptoms near delivery, 52
 risk categories for RLS drugs, 227-228, 227t
 as risk factor for RLS, 49-51
 RLS treatment considerations, 226-228
- Prevalence of RLS, 47-53
- Primary care physician (PCP), 15, 253-255
 prescription of opioids, 215
 referrals to specialists, 214-216, 255
 treatment of RLS, 214-216, 253-255
- Prochlorperazine, worsening of RLS with, 124, 247
- Promethazine, worsening of RLS with, 124, 247
- Prophylactic use of medications, 201
- Propoxyphene, 171t, 172
 pregnancy risk category, 227t
- Propranolol, 183
- PSG. *See Polysomnogram (PSG).*
- Psychiatric disorders, RLS and, 241-252
 epidemiology of comorbidities, 242-244, 243t
- Psychiatric disorders, RLS and (*continued*)
 increased risk of psychiatric disorders in RLS, 243t
 major depressive disorder (MDD), 242, 243-246, 243t
 overlapping and distinctive criteria, 244-246, 245t
 panic disorder, 242, 243-244, 243t, 246
 potential mechanism for overlap, 244-246
 psychiatric medications
 effect on RLS, 121-123, 246-249
 RLS-compatible medications, 248t
- Psychiatrists, 254t
- Pulmonologists, 254t
- Quality of life (QOL) in RLS, 100-101, 102
 treatment decisions and, 114
- Quazepam, 179t
- Quetiapine, 247
 onset of RLS linked with, 121
- Quinidine, effect on elimination of pramipexole, 146
- Quinine, effect on elimination of pramipexole, 146
- Radiculopathies
 neurologic exam for, 103
 as RLS mimics, 29t
- Ramelteon, 180t, 182
- Ranitidine, effect on elimination of pramipexole, 146
- Rating scales for RLS, 95-100, 100t-101t, 259-262
 quality of life scales, 101
- Rebound, 150, 153-154
 augmentation confused with, 157
- Reboxetine, 248t
- Red nucleus, 69
- Referrals for RLS patients, 205, 214-216, 255
- Reflexes, in RLS, 67
- Refractory RLS, 115t, 116, 205-211. *See also Severe RLS.*
 defined, 205
 treatment approach, 205-211
 algorithm for management, 206
 augmentation, uncontrollable, 206, 210-211
 combination therapy, 207-208, 209
 inadequate initial response, 206, 207-208
 intolerable side effects, 209-210
 medications, 206, 207-211
 referral to specialists, 205, 214-215
 response becomes inadequate despite increasing doses, 206, 208-209

- Refractory RLS (*continued*)
 - worsening due to a new trigger, 208
 - worsening due to disease progression, 209
 - worsening due to tolerance, 208-209
- REM sleep, 33
- REM sleep behavior disorder, 36, 37t
- Renal failure
 - as causal factor in RLS, 52
 - end-stage renal disease (ERSD), 221-223
 - kidney transplantation, RLS improvement after, 183-184, 221
 - as risk factor for RLS, 48t, 51
 - uremia and secondary RLS in, 221-223
- Renal specialists, 254t
- Repetitive movement habits, 28t
- Resources for RLS, 263-268
- Respiratory depression, with opioid medications, 169
- Rest induced (diagnostic feature), 20t, 22-23
 - questions to elucidate, 30t
- REST (RLS Epidemiology, Symptoms and Treatment)
 - studies, 15
 - elderly RLS patients, prevalence of, 228
 - fatigue and daytime sleepiness, 83-84
 - General Population Study, 79, 228
 - Primary Care Study, 79-80, 83
 - severity of RLS, 55
 - sleep, effects of RLS on, 79-80, 81-82
- Restless Legs Syndrome (RLS)
 - classification of patients, 115-116, 115t
 - commonness/incidence of, 14-15
 - consequences of. *See Consequences of RLS.*
 - diagnosis of. *See Diagnosis of RLS.*
 - education/support groups for, 135, 198, 263-268
 - future trends in, 255-256
 - historical perspective/age of disorder, 12-14
 - impact on patients, 16-17
 - introduction/overview of, 11-18
 - management of. *See Management of RLS.*
 - mimics of, 27, 28t-29t
 - morbidities associated with, 15-17, 242-244
 - secondary RLS, 15, 51-53, 219-224
 - as sensorimotor disorder, 11-12
 - severe cases. *See Severe RLS.*
 - treatment of. *See Treatment of RLS.*
- Restlessness, disorders of, 27, 28t
- Reticular formation, 69
- Rheumatoid arthritis
 - as causal factor in RLS, 52
 - as RLS mimic, 29t
- Rheumatologists, 254t
- Rhythmic movement disorders, 28t
- RiBECA (RLS in Baltimore Epidemiologic Catchment Area)
 - study, 243, 244
- Risk factors for RLS, 48-51, 48t, 119
 - age, 48-49, 49
 - family history of RLS, 41-42, 51, 53-54, 242
 - sex (gender), 49-51, 50
- Risperidone
 - exacerbation of RLS-like symptoms, 247
 - onset of RLS linked with, 121
- RLS-6 Scales, 99-100, 101t
- RLS. *See Restless Legs Syndrome (RLS).*
- RLS Foundation, 135, 198, 266
 - pamphlets and videos, 267
- RLS in Baltimore Epidemiologic Catchment Area (RiBECA)
 - study, 243, 244
- RLS-PLMD at Yahoo Groups, 268
- The RLS Rebel Website, 268
- Ropinirole, 142t, 146-148
 - approval for RLS, 139, 140, 146, 255
 - dosage for, 142t, 147, 225
 - drugs that slow metabolism of, 147
 - efficacy, 146-147, 148-149
 - half-life of, 142t, 147, 153
 - onset of effective action, 148
 - pregnancy risk category, 227t
 - side effects of, 141t, 148-150, 153
 - use for children with RLS, 225
 - use for daily RLS, 204
 - use for periodic limb movement disorder (PLMD), 233
 - use for uremic RLS, 222
- Rotating treatment, 206, 213-214
- Rotigotine, 142t, 162-163
 - continuous release patch, development of, 255
 - pregnancy risk category, 227t
 - use for refractory RLS, 211
- Schizophrenia, medications for, 121
- Scleroderma, as causal factor in RLS, 52

- Scopolamine patches, 126t
- Secondary disorders, RLS patients with, 60-63
- Secondary RLS, 15, 51-53, 219-224
 defined, 219
 iron deficiency with or without anemia, 51-52, 219-221
 neurologic and endocrine disorders, 52-53, 224
 Parkinson's disease and, 53
 pregnancy and, 52, 226-228
 rheumatoid conditions, 52
 treatment considerations, 219-224
 uremia/uremic RLS, 52, 221-223
 improvement after kidney transplantation, 183-184, 221
- Sedative hypnotics, 124-125, 176-184, 179t-180t. See also *specific medications*.
 benzodiazepines, 178-182, 179t
 alprazolam, 178-180, 179t
 clonazepam, 177, 179t, 180-181, 222
 temazepam, 179t, 181
 triazolam, 179t, 181
 use for intermittent RLS, 196
 use for uremic RLS, 223
 improvement of RLS symptoms with, 178
 nonbenzodiazepines, 180t, 182-183
 eszopiclone and zaleplon, 180t, 182
 ramelteon, 180t, 182
 zolpidem, 180t, 182-183
 pregnancy risk categories, 227t
 side effects, risks for daytime functions, 177
 tolerance potential of, 213
 use for daily RLS, 204
 use for insomnia and sleep disruption, 177-178, 212
 use for intermittent RLS, 196, 197t, 199, 200, 202
 use in combination therapy for refractory RLS, 207
 worsening of RLS symptoms with, 177
- Selective serotonin reuptake inhibitors (SSRIs)
 increase in PLM/PLMS with, 233, 247
 worsening of RLS symptoms with, 122, 247
- Sensorimotor components of RLS, 11-12
- Sensory symptoms, 11-12
- Serotonin-norepinephrine reuptake inhibitors (SNRIs), 122, 233, 248t
- Sertraline, worsening of RLS symptoms with, 122
- Severe RLS. See also *Refractory RLS*.
 disability as result of, 90-91
 Johns Hopkins RLS Severity Scale, 55, 58t
- Severe RLS (*continued*)
 night walking and, 80
 pain in, 22
 quality of life and, 100-101, 102
 rapid of onset of symptoms, 22
 RLS crisis or "status," 55
 serum ferritin level in, 220
 sleep disturbance in, 16
 spectrum of severity, 54-55
 symptoms at any time, 24, 35-37, 55
 symptoms outside the legs, 21
 treatment of depression in, 247-249
- Severity of RLS
 spectrum of severity, 54-55
 treatment decisions and, 113-114
- Sex, as risk factor for RLS, 49-51, 50
- Sexual activity, symptomatic relief from, 23, 132
- Shift work, 89, 128
- Side effects of medications. See also *specific medications and conditions*.
 augmentation, 140, 141t, 150, 154-159
 dopaminergic medications, 141t, 148-150
 intolerable side effects, 209-210
 lower in combination therapy, 212
- Single-photon emission computed tomography (SPECT), 69
- SIT. See *Suggested immobilization test (SIT)*.
- Sjogren's syndrome, as causal factor in RLS, 52
- Sleep. See also *Periodic limb movements in sleep (PLMS)*.
 alcohol and, 120
 American Academy of Sleep Medicine (AASM), 265
 assessment, 104, 105t-106t
 deprivation
 daytime effects of, 83-84
 sleep hygiene for, 125-127
 disorders
 diagnosis of, 104-105, 105t-106t
 PLMS in, 36, 37t
 disruption, 24-27
 by PLM, 232-234
 treatment with sedative hypnotics, 177-178
 evaluation
 Epworth Sleepiness Scale, 83
 Medical Outcome Scales for Sleep (MOS), 95
 Pittsburgh Sleep Quality Index, 95

- Sleep, evaluation (*continued*)
- polysomnogram, 104, 105t-106t
 - sleep diaries, 94-95, 98, 105
 - exercise and, 130-131
 - hygiene, 125-130, 198
 - avoiding sleep deprivation, 125-127
 - counterstimulation practices, 130
 - preparation of the bedroom, 128-129
 - presleep activity, 129-130
 - regular bedtimes and rise times, 127-128
 - impact of RLS on, 16, 79-80, 81-82
 - daytime sleepiness, 16, 83-84, 90
 - difficulty getting to sleep, 79-80, 81
 - difficulty maintaining sleep, 80, 82
 - insomnia, 80, 177-178, 210
 - medications, 249
 - gabapentin, 164
 - over-the-counter sleeping pills, 124, 228
 - sedative hypnotics, 177-178, 179t-180t
 - narcolepsy, PLMS in, 36, 37t
 - National Sleep Foundation, 268
 - NREM sleep, 31-33
 - REM sleep, 33
 - REM sleep behavior disorder, 36, 37t
 - sleep apnea, 105t-106t
 - PLMS in, 37t, 39
 - sleep diaries, 94-95, 98, 105
 - sleep study (polysomnogram), 104, 105t-106t, 232
 - sleepiness as beneficial side effect, 210
 - somnambulism, 83
 - specialists, referrals to, 215, 255
 - stages
 - PLMS and, 31-33
 - polysomnographic measurement of, 104, 105t-106t
 - web resources, 268
- Sleep apnea, 105t-106t
- PLMS in, 37t, 39
- Sleeping pills, over-the-counter, 124, 228
- Smoking, relationship to RLS, 51, 120-121, 197
- Snoring, 39
- SNRIs. See *Serotonin-norepinephrine reuptake inhibitors (SNRIs)*.
- Social events, RLS effect on socializing, 86-87
- Socioeconomic status, as RLS risk factor, 48t
- Sodium oxybate, onset of RLS linked to, 125
- Somnambulism, 83
- The Southern California RLS Support Group, 268
- Special populations, 58-63, 219-239
- children, 58-59, 60t-61t, 224-225
 - elderly, 228-229
 - cognitively impaired elderly, 59-60, 62t
 - periodic limb movement disorder (PLMD), 38-39, 231-234
 - pregnant and breast-feeding women, 52, 226-228
 - secondary disorders, RLS patients with, 60-63
 - secondary RLS, 51-53, 219-224
 - iron deficiency with or without anemia, 51-52, 219-221
 - other secondary RLS conditions, 48t, 224
 - uremia, 63, 221-223
 - surgery or outpatient procedures, 183-184, 229-231
- Specialists, 15, 254t
- referrals to, 205, 214-216, 255
- SPECT (single-photon emission computed tomography), 69
- Spinal cord, involvement in RLS, 67, 68t
- Spinocerebellar ataxia type 3, RLS and, 48t
- Spousal issues in RLS, 88
- SSRIs. See *Selective serotonin reuptake inhibitors (SSRIs)*.
- Steroid, as RLS-friendly drug, 126t
- Substantia nigra, 72
- Suggested immobilization test (SIT), 24-25, 25t
- in diagnosis of RLS, 38, 104, 107
 - sensory discomfort during, 104, 107
- Support groups, 135, 198, 266-268
- Suprachiasmatic nucleus, circadian rhythms and, 25, 69
- Surgeons, 254t
- Surgery, 183-184, 229-231
- improvement of RLS after, 183-184
 - outpatient procedures, 230-231
 - PLM during, 229-231
 - medications for, 230-231
 - worsening of RLS after, 183
- Symptoms. See also *Diagnosis of RLS; Periodic limb movements (PLM); Periodic limb movements in sleep (PLMS)*.
- bedtime increase in, 79-80, 81
 - circadian pattern of, 24-26, 26t
 - confined spaces and, 22-23
 - described as torture, 11, 12-13, 155
 - descriptive terms used by patients, 12t
 - differentiated from pain, 21-22

Symptoms (*continued*)

- experienced only when sitting, in some individuals, 22
- fluctuation in, 114
- location of sensations, 20-21, 31
- occurrence at any time, in severe cases, 24, 35-37
- persistence of, RLS diagnosis and, 21
- psychiatric disorders, symptomatic overlap with RLS, 244-246
- psychiatric medications and, 246-249, 248t
- rapidity of onset, 22
- treatment decisions and, 111-115
 - follow-up/fluctuation of symptoms, 114
 - frequency and severity of symptoms, 113-114
 - impact of symptoms, 111-112
 - timing of symptoms, 113

Talk About Sleep, 268

Teenagers, RLS in, 15

Temazepam, 179t, 181

- contraindicated in pregnancy, 227t

- use for periodic limb movements (PLM), 233

Terguride, 142t, 163

- absence of fibrosis reports for, 160

Thalamus, involvement in RLS, 68t, 69

Theater and movies

- medication use and, 201-202

- RLS effects and, 86-87

Tiagabine, 164t

Tic disorder, 28t

Tobacco/smoking, 51, 120-121, 197

Toes, movements/dyskinesias, 28t, 32t

Tolcapone, 152

Tolerance

- cross-tolerance, 209, 214

- to dopaminergic medications, 157-158

- drug holidays as means of avoiding, 213

- intermittent use as means of avoiding, 213

- to opioid medications, 169

- RLS medications associated with, 213

- rotating treatment as means of avoiding, 213-214

- worsening of RLS due to, 208-209

Topiramate, 164t, 167

Tramadol, 171t, 173-174

- augmentation with, 154

- pregnancy risk category, 227t

- use for intermittent RLS, 200, 201, 202

Travel

- benefit of mental alerting activities, 131-132

- impact of RLS on, 91

Trazodone, 247, 248t

Treatment of RLS. See also *Management of RLS; Medications.*

- adjustment of, 112t

- alternative treatments, 132-134

- chronicity of RLS and, 55-58

- classification of RLS patients, 115-116, 115t

- future trends for, 255-256

- nonpharmacologic management. See *Nonpharmacologic management of RLS.*

- referrals, 214-216

- special populations, 58-63, 219-239

 - children, 224-225

 - elderly, 228-229

 - iron deficiency with or without anemia, 219-221

 - periodic limb movement disorder (PLMD), 231-234

 - pregnant and breast-feeding women, 226-228

 - secondary RLS, 219-224

 - surgery/outpatient procedures, 229-231

 - uremia, 221-223

- tailoring to symptoms, 111-115

- timing of doses and, 112t

treatment algorithms

- daily RLS, 204

- intermittent RLS, 196

- refractory RLS, 206

- treatment approaches, 195-217. See also *Daily RLS;*

 - Intermittent RLS; Refractory RLS.*

 - combination treatment, 206, 209, 212-213

 - daily RLS, 203-204, 204

 - drug holidays, 206, 213

 - individualized treatment, 211

 - intermittent RLS, 195-203, 196, 197t

 - referrals, 214-216

 - refractory RLS, 205-211, 206

 - rotating treatment, 206, 213-214

- treatment decisions

 - frequency and severity of symptoms, 113-114

 - general guide to, 111-112, 112t

 - timing of symptoms, 113

 - when to treat?, 111-112, 112t

- treatment resistance, 103. See also *Refractory RLS.*

Triamterene, effect on elimination of pramipexole, 146
Triazolam, 179t, 181
 use for periodic limb movements (PLM), 233
Tricyclic antidepressants (TCAs), 123, 247
Trimipramine, effect on serotonin levels, 123

UARS (upper airway resistance syndrome), 39
Upper airway resistance syndrome (UARS), 39
Uremia, 63, 221-223
 screening for, 103
 secondary RLS in (uremic RLS), 63, 221-223
 benzodiazepines for, 223
 dopaminergic drugs for, 222
 gabapentin for, 222, 223
 nonpharmacologic therapy for, 222
 opioids for, 223
URGE (diagnostic features of RLS), 19-27, 20t
 acronym explained, 20t
 Evening or night worse, 24-27
 Gets better with (relieved by) movement, 23-24
 questions to elucidate, 30t
 Rest induced, 20t, 22-23
 Urge to move the legs, 19-22, 20t
Urge to move the legs (diagnostic feature), 19-22, 20t
 questions to elucidate, 30t

Valproic acid, 164t, 167-168, 249
Varicose veins, as RLS mimic, 29t
VAS. See *Visual analogue scale (VAS)*.
Vascular disorders, as RLS mimics, 29t
Venlafaxine
 increase in PLMS with, 247
 worsening of RLS symptoms reported for, 122, 247
Verapamil, effect on elimination of pramipexole, 146
Visual analogue scale (VAS), 25t, 38, 41
Vitamins, 134, 183
 B₁₂, 183
 deficiency, 48t, 103
 E, 183
Voluntary movement
 component of RLS, 11
 normal motor function in RLS patients, 74

Web resources for RLS, 265-268
White noise generators, 129
Willis, Thomas, 11
 first documented drugs prescribed for RLS, 168
 first medical description of RLS, 12-13
Wilson, Virginia, 15
Women
 prevalence of major depressive disorder, 242
 prevalence of RLS, 49-51, 50
Work-related consequences of RLS, 88-91

Zaleplon, 180t, 182
 pregnancy risk category, 227t
Ziprasidone, 247
Zolpidem, 180t, 182-183
 pregnancy risk category, 227t
Zonisamide, 164t