

## Index

- AAC *see* augmentative and alternative communication
- achromatopsia, 460–461
- Action Research Arm Test (ARAT), 137–138, 237, 239
- activities of daily living (AOL) scales, 138–141
- activity scales *see specific scales*
- acupuncture, efficacy on motor/functional recovery, 172
- “adaptive strategies”, 346, 364–367
- age, risk factor in stroke, 5, 7, 431
- Agency for Health Care Policy and Research rehabilitation guidelines, 197–205
- agitation, 270–271
- agnosia, visual *see* visual agnosia
- akathisia, 270–271
- akinetopsia, 461
- alcohol consumption, risk factor in stroke, 5, 11–12
- alien hand syndrome, 272–273
- Alpha-Tocopherol, Beta-carotene Cancer Prevention Study, 15
- amphetamines, impact on ischemic recovery, 70
- analgesics, use in pain treatment, 307
- angioplasty, carotid as stroke treatment, 22
- anosognia, 524
- anticonvulsants, use in pain treatment, 307
- antidepressants
- effect of fluoxetine on motor recovery, 128
  - use in pain treatment, 307
- antispastic drugs, 299
- antithrombotic drugs, use in stroke prevention, 17–18, 27–29
- anxiety, role in sexual dysfunction, 438, 446–447
- aphasia, 510–511
- anomic, 476, 481–482, 505, 511
  - and brain anatomy, 126
  - Broca’s, 476, 478–479, 505, 510
  - Boston Diagnostic Aphasia Examination, 475–478, 476
  - capsular–putaminal, 482
  - classification, 475–478
  - conduction, 476, 481
  - cortical, 476, 478–482
  - C-Speak program, 491, 492
  - drug treatments, 491–493
  - global, 476, 480, 505, 511
  - language–speech recovery, 485–489, 493–495, 496
  - language–speech therapy, 128, 489–491, 493–494, 516–518
  - prevalence, 474–475
  - syndromes, 474–482, 476, 505
  - thalamic, 482
  - transcortical, 476, 479–480, 481, 505
  - Wernicke’s aphasia, 126, 128, 476, 480, 505, 511
  - see also* apraxia; dysarthria; language–speech disorders
- apnea
- central, 585
  - obstructive, 585, 585–586, 586–587, 588, 589–590
  - see* breathing, sleep disordered
- apraxia, 505
- of gait, 262
  - of speech, 479, 511
- ARAT *see* Action Research Arm Test
- Aronson, A. E., 483
- Ashworth Scale (muscle tone rating), 288, 289
- aspirin, use in stroke reduction, 17–18, 19, 28, 30,
- assessment
- in early rehabilitation, 198–205, 199, 202
  - in health interventions, 135–143
  - tools *see* measurement tools
  - work rehabilitation programs, 629–630
  - see also* specific impairments
- Assessment of Motor and Process Skills, 142
- Assessment of Quality of Life Instrument, 147–148
- asterixis, 269–270
- Asymptomatic Carotid Atherosclerosis Study, 21–22

## 647 Index

- Atherosclerosis Risk in the Communities Study, 9, 10, 11
- athetosis, 266–267
- atrial fibrillation  
 relationship to stroke incidence, 18–20  
 risk factor in stroke, 5, 20, 29, 29–30
- atrial septal aneurysm, incidence in stroke, 30
- augmentative and alternative communication, 490
- axonal growth, 52–54, 71–73
- baclofen, 296–297, 301
- balance  
 assessment in stroke patients, 321–324, 322, 358–359  
 measurement scales, 324–326, 327, 328, 337–339, 338  
 retraining post-stroke, 325, 370–377  
 and vestibular deficits, 354  
*see also posture*
- Balint's syndrome, 457, 505, 522
- Barthel Index, 48, 138–139, 290, 422,
- BDAE *see Boston Diagnostic Aphasia Examination*
- Beck Depression Inventory, 570
- benign paroxysmal positional vertigo (BPPV), 348  
 therapies, 367–369, 368
- benzodiazepines, 295–296
- Berg Balance Scales, 325, 370–377
- Bezafibrate Infarction Prevention Study, 11
- bladder  
 control during early rehabilitation, 200–201  
 diagnosis of disorders, 418, 419, 420, 423–424  
 physiology 1008(12)–1010(20)  
*see also incontinence; urinary; urine storage disorders; voiding disorders*
- blepharospasm, 271
- blindsight, 457–458
- blood pressure  
 risk factor and treatment, 6–8, 7  
 role in stroke prevention, 25–27
- Bobath method, 227–228, 293, 371–372
- body weight supported treadmill training (BWSTT), 174–176
- Boston Diagnostic Aphasia Examination (BDAE), 475–478, 476
- botulinum toxin, 241–243, 300–301
- bowels  
 assessment of function, 431  
 management of functioning, 431–432  
 physiology, 429–430,  
*see also incontinence; fecal*
- BPPV *see benign paroxysmal positional vertigo*
- braces (orthotics), 235–236
- brain  
 anatomy post-stroke, 49–51, 90–95, 91, 94, 95, 96, 124–130  
 biology post-stroke, 51, 51–56, 52  
 damage, and sleep disordered breathing, 582–583  
 environmental effects in rat brain, 70–71, 72  
*see also specific brain regions*
- breathing, sleep disordered, 582–583  
 and cardiovascular disease, 584–586  
 and cerebrovascular disease, 584–586, 586–589  
 Cheyne–Stokes breathing, 584  
 prevalence, 581–582  
 treatment, 589–590  
*see also apnea; insomnia*
- British Male Doctors Study, 17–18
- British Regional Heart Study, 9, 10, 12
- Broca's aphasia, 476, 478–479, 505, 510
- Brown, J. R., 483
- Brunnstrom concept, 371–372
- BWSTT *see body weight supported treadmill training*
- C-Speak aphasia program, 491, 492
- Cancer Prevention Study II, 12
- cardiovascular disease  
 contribution of sleep disordered breathing, 584–586,  
 relationship to stroke incidence, 18–20, 27–29, 30  
 risk factor in stroke, 5, 20, 29, 29–31  
*see also cerebrovascular diseases; specific disorders*
- Cardiovascular Heart Study, 14, 24
- carotid endarterectomy, as stroke treatment, 21–22
- carotid stenosis, risk factor in stroke, 21–22
- Carr, J. H., 229
- casts (orthotics), 235–236
- cataplexy, 262
- “catastrophic reaction” syndrome, 525
- central amblyopia, 460
- central nervous system post-stroke  
 anatomy, 49–51  
 biology, 51–56
- central nervous system stimulation, 308
- central post-stroke pain, 303–309
- cerebral reorganization, 125–130
- cerebrovascular accidents *see strokes*
- cerebrovascular diseases, contribution of sleep disordered breathing, 584–586, 586–589
- CHADS<sub>2</sub> index, 20
- Charcot–Wildbrand syndrome, 594
- Checklist of Individual Strength (fatigue measure), 570
- Cheyne–Stokes breathing, 584  
*see also breathing, sleep disordered*
- Chicago Western Electric Study, 14
- Chlamydia pneumoniae*, and stroke incidence, 24
- cholesterol  
 reduction of, 27  
 risk factor in stroke, 5, 9–10
- chorea/ballism, 266

## 648 Index

- chronometric assessment, neurological, 328–329, 338
- CIMT *see* constraint-induced movement therapy
- circadian rhythms, 581
- clinical test of sensory interaction and balance (CTSIB), 337–339, 338
- clopidogrel, use in stroke reduction, 28
- cognition, spatiality, 344
- cognitive dysfunction, 203
- case study, 640
- emotional changes, 523–526
- in brain hemispheres, 503–512, 504, 505
- in limbic and paralimbic areas, 512–513
- recovery and therapy, 522–523
- relationship with depression, 561–564
- see also specific impairments*
- cognitive syndromes (ischemic stroke), 505
- color blindness, 460–461
- coma, indicator of stroke severity, 422
- communication disorders *see* language–speech disorders
- community rehabilitation services
- classification, 216
- community teams, 215, 216–217, 220–223
- impact on clinical outcomes, 192, 193
- importance and need, 209–210
- nature and development, 213
- theoretical models, 213–216
- see also early-discharge rehabilitation schemes*
- compensatory behavior, 49, 108–109
- dysphagia management, 404, 407–408
- complex regional pain syndrome, 309
- compulsive behaviors, 270–271
- conductive education, role in motor learning, 228–229
- constraint-induced movement therapy (CIMT), 107, 177–179, 238–240
- context/task specific rehabilitation, 372–374
- continence in stroke patients
- assessment, 425,
- factors determining, 424
- see also incontinence, fecal; incontinence, urinary*
- continuous positive airway pressure (CPAP), 587–589
- contraceptives, oral and stroke incidence, 5, 16
- Copenhagen City Heart Study, 10
- cortical blindness *see* visual disorders
- “covert practice” (mental practice), 243–244
- CPAP *see* continuous positive airway pressure
- CTSIB *see* clinical test of sensory interaction and balance
- cystometry, 418, 419, 420, 423–424
- dantrolene, 297–298
- Darley, F. L., 483
- deafness, idiopathic, 347
- defecation, physiology, 430
- see also* bowels; incontinence, fecal
- deficits *see* impairments
- dementia (post-stroke)
- dependency, 543, 543–544
- mortality from, 544
- predictors, 541–542
- prevalence, 538–541, 539, 540
- prognosis, 49, 542–545
- treatment, 547–549
- depression (post-stroke)
- classification, 557–558
- diagnosis, 556–559, 557
- drug treatments, 564–566, 565
- influence on recovery, 564
- management during rehabilitation, 203
- prevalence, 559
- relationship with cognitive/neurological deficits, 561–564
- relationship with fatigue, 569
- role of lesion location, 559–561
- diabetes mellitus, risk factor in stroke, 5, 8–9, 421
- diballism, 266
- diet
- management in dysphagic patients, 409–410
- risk factor in stroke, 5, 13–16
- see also* nutrition
- Different Strokes, 642
- disabilities *see* impairments
- disability movement, the
- views on stroke care provision, 212–213
- see also* independent living movement
- discharge planning (hospital), 203–205, 204
- see also* community rehabilitation services; early-discharge rehabilitation schemes
- dizziness *see* vertigo
- domiciliary rehabilitation services *see* community rehabilitation services
- dreaming, loss of, 594, 595
- drug treatments
- for central pain, 306–307
- effect on sexual functioning, 444
- impact on ischemic recovery, 70
- use in stroke reduction, 17–18
- see also specific drugs; ailments*
- DSM-IV diagnosis criteria, 557–558
- Dynamic Gait Index, 325–326
- dysarthria
- ataxic, 484, 485
- characteristics, 482–484, 485
- flaccid, 485
- language-speech recovery 1180(14)–1182(2)
- pure/isolated, 484, 485
- spastic, 485
- unilateral upper motor neuron, 483–484
- see also* aphasia; language–speech disorders
- dyskinesia, 268–273

**649**      **Index**

- dysphagia, 200  
assessment, 401–410, 404, 405–406,  
counselling, 410–411  
diet, 409–410  
effect of stroke, 398–400  
indicator of stroke severity, 422  
swallowing ability, 400–401  
treatment, 400–401, 403–405, 404, 406–411, 409  
*see also* swallowing ability
- dystonia, 263–264
- early-discharge rehabilitation schemes, 216–217,  
217–220  
impact on clinical outcomes, 192, 193
- early rehabilitation units, 192–196, 197
- Early Treatment Diabetic Retinopathy Study, 18
- Edinburgh Artery Study, 23
- education, conductive and motor learning, 228–229
- elderly  
prevalence of dementia with stroke, 539, 540  
treatment of hypertension, 7
- electrical stimulation (physiotherapy intervention),  
168–170, 236–237, 308
- electromyographic biofeedback, 167–168
- emotional changes  
cognitive recovery, 523–526  
determinants, 558
- emotionalism, 525
- employment program  
re-entry, 625, 634  
supported, 625–627, 629–634  
stroke rehabilitation, 625, 634
- empowerment (rehabilitation principle), 624–625
- endarterectomy, carotid as stroke treatment, 21–22
- endocrine system, role in sexual functioning, 445
- environment  
impact on brain anatomy of rats, 70–71, 72  
impact on recovery, 69
- erection (sexual) dysfunction, 441–442
- ethnicity, risk factor in stroke, 5, 5–6
- Europe, stroke mortality, 2, 2–3, 5–6
- EuroQoL, 147
- evaluation *see* assessment
- evidence, clinical in diagnosis, 161
- excitability, post-stroke, 106
- exercise  
aerobic, 171–172  
constraint-induced movement therapy, 107,  
177–179, 238–240  
dysphagia treatment, 408–409  
endurance training and recovery, 171–174  
fitness programs and recovery, 171–172  
impact on functional abilities, 170–171  
movement imagery, 243–244  
practice and reinforcement, 56–61  
strength training, 231–232  
treadmill training, 174–176, 240–241  
*see also* physiotherapy; robot-mediated therapy;  
expectation, role in sexual dysfunction, 447–448  
eye disorders *see* visual disorders
- feces, incontinence *see* incontinence, fecal
- falls, prevention, 369–370
- FAM *see* Functional Assessment Measure
- family history, risk factor in stroke, 5, 6
- fatigue  
definition, 567  
relationship with depression, 569
- fatigue post-stroke, 569–571, 572  
and lesion location, 571–572  
assessment, 568  
relationship with depression, 569
- feedback  
role in rehabilitation, 57, 58  
*see also* electromyographic biofeedback
- fetal tissue, transplantation, 73–75
- fiberoptic endoscopic examination of swallow,  
405–406
- fiber, dietary and stroke incidence, 14–15
- FIM *see* Functional Independence Measure
- finger extension, efficacy of functional electrical  
stimulation, 169
- fluoxetine, effect on motor recovery, 128
- FMA *see* Fugl-Meyer Assessment
- focal activity scales, 137–138
- folic acid, relationship to stroke incidence, 23
- Framingham Study, 9–10, 13, 14, 21, 546
- Frenchay Activities Index (FAI), 142, 150
- “frontal disequilibrium”, 262
- frontal lobe syndromes  
and urinary incontinence, 417  
cognitive failures, 503–510, 504
- Fugl-Meyer Assessment (FMA), 325, 609–610
- function, recovery of, 106–109, 165–167  
*see also* motor function
- function measurement *see* specific impairments  
*and* tool
- Functional Assessment Measure, 140
- Functional electrical stimulation, 168–170  
finger extension, 169
- functional imaging  
role in rehabilitation, 90–95  
role in neural network reorganization, 97–104
- Functional Independence Measure (FIM), 48,  
139–141, 290, 608
- “functional reach test”, 325
- gait disorders, 262  
apraxia, 262  
cautious, 352

**650** Index

- gait disorders (cont.)  
 Dynamic Gait Index, 325–326  
 frontal, 262  
 “isolated gait ignition failure”, 262  
 “magnetic”, 262  
 mirror movements, 270  
 Petren’s, 262  
 senile gait, 262  
 therapy, 170, 174–176, 176–177  
 in vascular parkinsonism, 261  
*see also* balance; locomotion; mobility; posture; walking
- gender, risk factor in stroke, 5  
 gene expression (post-ischemic), 68–69  
 general practitioners, involvement in community rehabilitation, 211–212, 214–215, 216–223  
 genetics, risk factor in stroke, 6  
 Gerstmann’s syndrome, 505, 511  
 “get up and go” test, 137, 325  
 glucose intolerance, risk factor in stroke, 8–9  
 guidelines (clinical and rehabilitation)  
 Agency for Health Care Policy & Research guidelines, 197–205, 199  
 impact on stroke recovery, 165  
*see also under specific impairments*
- Hamrin Activities Index, 142  
 handicaps *see* impairments  
 Harvard Alumni Study, 12  
 head–eye coordination (vestibular rehabilitation), 359–360  
 health interventions, measurement, 135–143  
 health practitioners, involvement in community rehabilitation, 211–212, 214–216, 216–223  
 Health Professionals Follow-up Study, 14, 15  
 health services, structure and organization, 212  
*see also* community rehabilitation services; hospital outreach teams; rehabilitation services
- heart disease *see* cerebrovascular disease  
 Heart Outcomes Prevention Evaluation Study, 8, 15, 25  
 Heart Protection Study, 15  
 hemianopia, 47, 48, 56–61, 458  
 hemichorea–hemiballism, 265–267  
 hemi-inattention, 202  
 hemineglect, 464–465, 505, 511–512  
 hemisphere lesion and cognitive dysfunction, 503–512, 504, 505  
 left, 510–511  
 right, 504, 511–512
- heredity, risk factor in stroke, 5, 6  
 high density lipoprotein, 10–11  
 home-based rehabilitation services *see* community rehabilitation services  
 homocysteine overload, 5, 7, 22–23  
 Honolulu Heart Program, 8, 11  
 hormone-replacement therapy, 16–17  
 hospital outreach teams, 214  
 hypercholesterolemia *see* cholesterol  
 hyperkinetic syndromes, 263–273  
 hypersexuality, prevalence among neurological patients, 438–439  
 hypersomnia, 591–593, 592  
 hypertension as risk factor in stroke, 5, 6–8, 7, 421  
 Hypertension Optimal Treatment Study, 8, 18  
 hypertonia, 233–236  
 hypokinetic syndromes, 259–263
- imaging, *see* functional imaging
- impairments  
 biological controls, 51, 52  
 cognitive *see* cognitive dysfunction  
 late onset, 210–211  
 measurement scales, 290  
 musculoskeletal, 361–362  
 neurological *see* neurological dysfunction and post-stroke depression, 562–563  
 recovery post-stroke, 47, 48, 56–61  
*see also specific impairments*
- incontinence, fecal  
 prevalence, 429–430  
 risk factors, 421, 430
- incontinence, urinary  
 assessment of, 425,  
 definition, 415–416  
 during early rehabilitation, 200–201  
 indicator of stroke severity, 422  
 management of, 424–428  
 predictor of disability, 421–422,  
 prevalence, 418, 419–421  
 risk factors, 421,
- independent living movement, the, 216  
*see also* disability movement
- infarction, cerebral *see* strokes
- infection and inflammation  
 relationship to stroke incidence, 24  
 risk factor in stroke, 5
- insomnia, 593
- Instrumental Activities of Daily Living scale, 141–143
- International Classification of Functioning, Disability and Health, 135
- International Classification of Impairments, Disabilities and Handicaps, 135
- job placement, 630–631
- Kaiser Permanent Medical Care Program, 16
- language–speech disorders  
 characteristics, 202–203  
 indicator of stroke severity, 422

**651**      **Index**

- recovery from, 485–489, 493–495, 496
- therapy, 128, 489–491, 492, 493–494, 516–518
- see also* aphasia; apraxia; dysarthria
- language function (brain anatomy), 126
- laxatives, 431–432
- “learned non-use”, 107
- learning, conductive and motor learning, 228–229
- left hemisphere *see* hemisphere, left
- lesions, location of
  - impact on use of robot therapy, 611–614, 612, 613,
  - role in post-stroke depression, 559–561
  - role in post-stroke fatigue, 571–572
- lesions, stroke
  - and aphasia, 474–475, 476, 478–482
  - and dysarthria, 482–484, 485
  - and dysphagia, 398
  - effect on body stability, 345
  - and language–speech recovery, 485–489
  - and urinary incontinence, 418
- Lhermitte’s pedicular hallucinosis, 594
- lifestyle, risk factor in stroke, 11–16
- lipids, risk factor in stroke, 10–11
- lipoprotein (a), 10
- locomotion
  - neurological control, 50–51
  - see also* balance; mobility; posture; walking
- marche à petits pas, 262
- measurement
  - balance, 324–326, 327
  - health interventions and outcomes, 135–143
  - posture, 328–329, 331, 332, 334, 338
  - robotic, 614–616,
  - stroke severity, 422
- measurement tools
  - communicability, 136
  - health outcomes, 136–143
  - quality of life, 144–150
  - reliability, 136, 140–141
  - validity, 136, 140–141
  - simplicity, 136
  - see also* specific tools and impairments
- medical practitioners
  - involvement in community rehabilitation, 211–212, 214–216, 216–223
  - see also* nurse practitioners; occupational therapists; physiotherapists
- Melodic Intonation Therapy, 494, 516–517
- memory failures, cognitive recovery, 522–523
- “mental practice”, 243–244
- mitral valve prolapse, as cause of stroke, 30
- mobility
  - “get up and go” test, 137, 325
  - role in rehabilitation, 107–108, 109, 201–202
  - see also* balance; gait; posture; walking
- mood changes *see* emotional changes
- mortality, stroke
  - case-fatalities, 4
  - incidence, 3–4, 544, 544–545
  - statistics, 2, 2–4, 3, 5–6
- Motor Activity Log, 177
- motor function
  - assessment in stroke patients, 321–324, 322
  - brain anatomy, 124–126, 127–128
  - see also* mobility; measurement tools; walking
- motor learning
  - Carr and Shepherd program, 229–230
  - role of conductive education, 228–229
  - see also* exercise
- Motor Power Score, 609
- motor speech disorders (Darley), 483
- Motor Status Score, 609,
- movement, physical and sensory
  - characteristics post-stroke, 108–109
  - coordination with posture, 345–346
  - as guide to recovery level, 102
  - retraining, 362–367, 364
  - role in rehabilitation, 107–108, 109
  - see also* mobility; walking
- movement disorders
  - hyperkinetic, 263–273
  - hypokinetic, 259–263
  - see also* spasticity
- “movement imagery”, 243–244
- movements, mirror, 270
- Multinational Monitoring of Trends and Determinants in Cardiovascular Disease (MONICA) Project, 2,
- Multiple Risk Factor Intervention Trial, 9–10
- muscle strength
  - characteristics, 61–62
  - impact on motor function, 171
  - role in body stability, 343
  - see also* physiotherapy exercises;
- muscle tone
  - definition, 233
  - physiotherapy interventions, 233–236
  - tone intensity scales, 288–290, 289,
  - see also* physiotherapy
- myoclonus, 269
- myorrhhythmia, 269
- National Health Service (NHS) UK, 212
- National Institute of Health Stroke Scale 8.4
- neglect
  - hemineglect, 464–465, 505, 511–512
  - “learned non-use”, 107
  - visuospatial, 505, 519–521
- nerve blocks, in antispastic treatment, 299–300
- nervous system, role in pain experience, 309

**652** Index

- networks, neural  
 anatomy post-stroke, 99, 103, 105, 106  
 plasticity of, 51, 52  
 reorganization post-stroke, 97–106
- neural cells  
 proliferation, 75–77  
 transplantation, 74–75
- “neurodevelopmental treatment” (Bobath), 227–228  
 “neurofacilitation”, 227
- neurological dysfunction  
 impact on intimate relationships, 448–452, 450,  
 relationship with depression, 561–564
- neuronal precursor response, 55–56
- new technologies, use in rehabilitation, 244
- Newcastle Community Multiple Sclerosis Team, 215
- Niemi Quality of Life Scale, 150
- Nine Hole Peg Test, 138
- Norre, M. E. 13.65
- North American Study of Carotid Endarterectomy  
 Trial, 21
- Nottingham Extended Activities of Daily Living  
 Scale, 142
- Nottingham Health Profile, 145–146
- nurse practitioners, 211, 215–216  
*see also* medical practitioners; occupational  
 therapists; physiotherapists
- Nurses’ Health Study, 13, 14, 15
- nutrition  
 foodstuffs, 13–16, 23  
 management in dysphagic patients, 409–410  
 relationship to stroke incidence, 13, 13–16,  
 14–15, 23  
 vitamins, 15–16, 23  
*see also* diet
- obesity, risk factor in stroke, 9
- obstructive sleep apnea, 585, 585–586, 586–587, 588,  
 589–590  
*see also* breathing, sleep disordered
- occupational therapists  
 dysphagia management, 410  
 involvement in community rehabilitation, 211,  
 214–215, 216–223  
*see also* medical practitioners; nurse practitioners;  
 physiotherapists
- Odstock Dropped Foot Stimulator, 237
- omega 3 intake, relationship with stroke incidence,  
 13–14
- oral contraceptives, relationship with stroke  
 incidence, 5, 16
- orofacial dyskinesia, 273
- orthopedic approach to physiotherapy  
 influence on rehabilitation, 227  
 orthoses, 235–236, 293–294  
*see also* physiotherapy; walking aids
- Oswestry Scale of Grading, 289
- outcomes assessment *see* measurement tools
- outpatient services  
 option for stroke rehabilitation, 213–214  
*see also* community rehabilitation services; early  
 discharge rehabilitation schemes
- pain  
 central post-stroke pain, 303–309  
 classification, 302–303  
 complex regional pain syndrome, 309  
 efficacy of functional electrical stimulation, 169–  
 170
- pain management  
 drug treatments, 306–307  
 electrical stimulation, 236–237, 308  
 neurosurgery, 308  
*see also* specific treatments
- paraballism, 266
- paralysis, indicator of stroke severity, 422
- parasomnia, 593–594
- parkinsonism, vascular, 259–261, 262
- partners, non-disabled  
 impact of disability on relationship, 450,
- PASS *see* Postural Assessment Scale for Stroke  
 Patients
- passive smoking, risk factor in stroke, 11
- patent foramen ovale, risk factor in stroke, 29, 30
- Perfetti method, 293
- Petö, A., 228
- Petren’s gait, 262
- pharmacotherapy *see* drug treatments
- pharyngeal manometry, use in dysphagic  
 assessment, 406
- physical activity, relationship to stroke incidence,  
 12–13
- “physical conditioning”, 231–232
- Physicians’ Health Study, 12, 14, 17–18
- physiotherapists and community rehabilitation, 211,  
 214–215, 216–223  
*see also* medical practitioners; nurse practitioners;  
 occupational therapists
- physiotherapy  
 advantages, 108–109  
 case study, 246–248, 638–639  
 efficacy, 230–231  
 future developments, 244–245  
 history, 226–230  
*see also* exercise; occupational therapy; orthoses;  
 dysphagia; spasticity
- plasticity (brain), 90–97
- pneumonia, relationship with stroke incidence, 24
- pontine lesions, and urinary incontinence, 418
- post-stroke depression *see* depression
- posterior hemisphere (post-stroke)

- cognitive failures, 504, 512
- Postural Assessment Scale for Stroke Patients (PASS), 326, 327
- posture
- adaptive behaviors, 346
  - assessment, 339–340, 358–359, 360–361
  - coordination with movement, 345–346
  - disturbance post-stroke, 320–321, 340–342, 341–342
  - effect on dysphagia, 404
  - measurement of, 326–329, 330, 331, 332, 332–336, 334, 336–337, 338,
  - stabilization, 342–345
  - verticality, 322, 329–332, 331
  - see also* balance; gait; mobility; posturography
- postunography
- dynamic, 337–339
  - static, 334, 334–336
- praxapagnosia, 463–464
- primary care teams, option for stroke rehabilitation, 214–215
- Primary Care Trusts, 212
- primary prevention project, 15, 18
- progenitor cells
- proliferation, 75–77
  - transplantation, 75
- promoting aphasic communicative effectiveness (PACE), 517
- PSD *see* depression
- psychology, importance in pain treatment, 306
- “pusher behavior”, 341–342
- quality of life
- definition, 143–144
  - measurement of, 144–150
- Quality of Life Index – Stroke Version, 149–150
- race, risk factor in stroke, 5, 5–6
- Rankin Scale, 141
- ratings scales *see* measurement tools
- recovery, stroke, 47, 48, 56–61, 88–89, 92, 513–514
- acute-stage pathophysiology, 190
  - brain anatomy, 124–130
  - cerebral activity, 101–102, 106
  - functional activity, 106–109, 165–167
  - impact of guidelines, 165
  - impact of pre-stroke social life, 564
  - see also* rehabilitation; survival, stroke; *specific disorders*
- recurrent stroke
- effect on dysphagia, 399–400
  - incidence among patients with dementia, 543
- rehabilitation
- assessment, 197–205, 202, 204
  - case study, 637–641
  - clinical outcomes, 190–192
  - definition, 192–196
  - management of depression, 203
  - role of practice and reinforcement, 47, 48, 56–61
  - sensory stimulation, 375–376, 408
  - skin care, 199–200
  - see also* exercise; mobilization; recovery, stroke
- rehabilitation, vocational
- criteria enabling success, 627–629
  - definition, 623–624
  - principles, 624
  - see also* employment programs (vocational rehabilitation)
- rehabilitation services, 163–179
- efficacy of physiotherapy, 230–231
  - impact of early and intensive rehabilitation, 165–167, 192–196, 197
  - patient opinion, 212–213
  - self-help organizations, 642
  - see also* community rehabilitation services; early-discharge rehabilitation schemes; hospital outreach teams reinforcement and practice in rehabilitation, 56–61
- relationships, intimate
- impact on sexual functioning, 445–448
  - management of problems, 450–452, 451,
  - social impact of neurological dysfunction, 446, 448–450, 450
  - see also* partners, non-disabled
- restitution (cerebral), 48
- of motor function post-stroke, 127–128
- rhythmic auditory stimulation, 176–177
- rhythmic positional feedback, 176–177
- Rivermead Activities of Daily Living Assessment, 141–142
- robot-mediated therapy, 244
- benefits, 609–614, 610, 613,
  - characteristics, 605, 616–619
  - effect on recovery, 605–609, 607
  - impact of lesion location, 611–614, 613,
  - measurement capacity, 614–616,
  - “rocking chair paradigm”, 330, 331, 336–337
- SA-SIP 30, 149
- scales of functional measurement *see* measurement tools
- selegiline, 70
- self-help organization, 642
- sensibility
- of outcome measurement tools, 136
  - see also* specific tools
- sensory faculties
- deficits, 343–344
  - recovery of, 47, 48, 56–61, 201–202
  - stimulation (stroke rehabilitation), 375–376, 408



**654** Index

- sensory faculties (cont.)  
 use in movement retraining, 364,  
*see also* deafness, idiopathic; vision visual disorders
- Sensory Organization Balance Test, 328, 338
- serotonergic drugs, effect on motor recovery, 128
- sexual dysfunction  
 case study, 640  
 contributory factors, 438, 445–450, 451  
 female, 442–443  
 hypersexuality, 438–439  
 male, 441–442, 443–444  
 management, 450–452, 451,  
 prevalence, 436–440  
*see also* relationships, intimate
- sexual response cycle, 138
- sexuality  
 definition, 440–441, 447  
 myths, 448  
 physiology, 443–445
- Shepherd, R.B., 229
- Short Form-36 (SF-36), 145
- Sickness Impact Profile, 146–147  
*see also* Stroke-Adapted 30-Item Version of the  
 Sickness Impact Profile
- skill recovery, 106–109
- skin care, 199–200
- sleep disorders *see* apnea; breathing, sleep disordered;  
 insomnia; hypersomnia; parainsomnia;  
 sleep–wake disorder
- sleep–wake disorder (SWD), 590–597, 592,  
 594, 595
- sleeping tablets, 295–296
- smoking  
 impact of cessation, 27  
 passive, risk factor in stroke, 11  
 risk factor in stroke, 5, 11
- snoring  
 and cerebrovascular disease risk, 584–585  
*see also* breathing, sleep disordered
- social life (pre-stroke) influence on recovery, 564
- spasm, hemifacial 672(11)
- spasticity  
 definition, 233, 287–288  
 exacerbating factors, 289  
 measurement scales, 288–290  
 physiotherapy for, 233–236, 292–293  
 role in body stabilization, 342–343  
 treatment, 241–243, 290–302, 299
- speech disorders *see* language–speech disorders
- speech function (brain anatomy), 126
- SSQoL *see* Stroke Specific Quality of Life Scale
- stem cells  
 immortalized, 74–75  
 response, 55–56  
 transplantation, 74–75
- stenosis, carotid and stroke, 21–22
- stereotypy, 270
- Stroke-Adapted 30-Item Version of the Sickness  
 Impact Profile (SA-SIP30), 149
- Stroke Impact Scale (SIS), 148–149
- stroke lesions *see* lesions, stroke
- stroke nurses, 211, 215–216  
*see also* medical practitioners; occupational  
 therapists; physiotherapists
- Stroke Specific Quality of Life Scale (SSQoL), 149
- stroke units and wards  
 efficacy, 163–165  
 impact on clinical outcomes, 191–192  
 organization and structure, 192–196, 197
- strokes  
 characteristics and classification, 4–5, 161  
 epidemiology and etiology, 1  
 guidelines for risk reduction, 26  
 impact on intimate relations, 448–450, 450  
 incidence, 1–2, 18–20, 22–23  
 infratentorial and sleep–wake disorders, 596–597  
 measures of severity/quality of life, 136–143,  
 144–150, 422  
 mortality, 2–4, 3, 5, 5–6, 544, 544–545  
 prevention, 25–31, 26, 198  
 risk factors, 5, 6–9, 7, 9–10, 11–12, 13–16, 20,  
 21–22, 29, 29–31, 421  
 statistics of cases, 210  
 supratentorial and sleep–wake disorders, 596–597  
*see also* cognitive dysfunction; impairments;  
 mortality, stroke; neurological dysfunction
- stroke patients views of rehabilitation, 212–213
- “subcortical disequilibrium”, 262
- substitution (stroke recovery), 48–49
- surgical treatments *see* therapy, surgical
- survival, stroke  
 impact of clinical guidelines, 165  
 impact of intensive rehabilitation, 165–167  
*see also* recovery, stroke
- “swallow maneuvers”, 409
- swallowing difficulty *see* dysphagia
- SWD *see* sleep–wake disorder
- Swiss Heart Study, 23
- synaptic plasticity, 52
- Systolic Hypertension in the Elderly Program, 7
- Tardieu scale, 289
- task/context-specific rehabilitation, 372–374
- technology in rehabilitation, 244
- Test Evaluant Les Membros Surperieurs des  
 Personnes Agees (TEMPA), 138
- therapists, and community rehabilitation, 211,  
 214–215, 216–223
- therapy  
 program, 173–174

**655**      **Index**

- selection criteria for functional/motor recovery, 173–174  
*see also specific therapies and disorders*
- therapy, surgical  
 antispastic, 302  
 dysphagia management, 410  
 pain therapy, 308  
 tracheostomy, 400–401
- Thrombosis Prevention Trial, 18
- ticlopidine, 28
- Tinetti assessment, 325
- tizanidine, 298
- TMS *see* transcranial magnetic stimulation
- tone (muscle)  
 definition, 233  
 physiotherapy interventions, 233–236  
 tone intensity scales, 288–290
- tourettism, 271
- tracheostomy (post-stroke), 400–401
- training *see* exercise; physiotherapy
- tranquillizers, 295–296
- transcranial magnetic stimulation (TMS)  
 impact on recovery, 95–97  
 role in recovery, 89  
 role in neural network reorganization, 104–106
- transcutaneous electrical nerve stimulation (TENS), 308
- Transnational Case Control study of Oral Contraceptives and Health, 16
- transplantation  
 fetal tissue, 73–75  
 neural cells, 74–75  
 progenitor cells, 75
- treadmill, *see* exercise, treadmill
- treatment *see* therapy
- tremor, 267–268
- trepidant abasia, 262
- Trial in Old Patients with Hypertension, 7
- triglycerides, 11
- ultrasound  
 use in bladder disorder diagnosis, 418  
 use in dysphagic assessment, 405
- UMNS *see* upper motor neuron syndrome
- unilateral neglect, 202, 464–465
- unilateral vestibular loss, 354, 354–355
- upper motor neuron syndrome (UMNS), 287, 288, 298
- urinary catheters, risk factors, 427
- urine incontinence *see* incontinence, urinary; bladder
- urine storage disorders, 426, 427  
*see also* bladder; voiding disorders
- vascular parkinsonism, 259–261, 262
- verticality *see* posture, verticality
- vertigo, 346–347, 348–349  
 assessment, 360,  
 benign paroxysmal positional, 364–367, 367–369, 368  
 cervical, 348–349, 356–357  
 impact on patient recovery, 349–352  
 positional, 348–349  
 treatment, 352–369, 368  
 visual, 356  
*see also* vestibular neuritis
- vestibular  
 impairments, 354, 354–356  
 rehabilitation, 357, 357–361, 366  
 vestibular neuritis, 347, 347–348
- Veterans Affairs High-Density Lipoprotein Intervention Trial, 11
- virtual reality, use in rehabilitation, 244
- vision  
 neurobiology, 456–457  
 use in movement retraining, 364
- visual agnosia, 461–463, 505  
 cognitive recovery, 522  
 cognitive therapy, 522
- visual analogue scales, 150
- visual disorders  
 blindsight, 457–458  
 cognitive recovery, 521–522  
 cognitive therapy, 522  
 color blindness, 460–461  
 cortical blindness, 457  
 exercises (vestibular rehabilitation), 366  
 field disorders, 458–460  
 localization disorders, 464  
 rehabilitation post-stroke, 457–466  
 relaxation techniques (vestibular rehabilitation), 366–367
- visuospatial neglect, 505, 519–521
- visuospatial training, 464
- Vitamin Intervention for Stroke Prevention Study, 23
- vitamins, relationship to stroke incidence, 15–16, 23
- voiding disorders, 426, 427–428  
*see also* incontinence, urinary; urine storage disorders
- wake–sleep disorders *see* sleep–wake disorders
- walking  
 aids in stroke rehabilitation, 377  
 neurological control, 50–51  
 recovery of, 47, 47–48, 56–61  
 task-oriented practice, 59–61  
*see also* balance; mobility; posture
- wards and stroke units  
 efficacy, 163–165  
 impact on clinical outcomes, 191–192  
 organization and structure, 192–196, 197

Cambridge University Press

052182236X - Recovery after Stroke

Edited by Michael P. Barnes, Bruce H. Dobkin and Julien Bogousslavsky

Index

[More information](#)

---

**656**      **Index**

---

warfarin, use in stroke reduction, 19, 28–29, 30

Wieacher syndrome, 479

Wernicke's aphasia, 476, 480, 505, 511

    and brain anatomy, 126

    impact of language training, 128

Women's Estrogen Stroke Trial, 17

Women's Health Initiative trial, 17

Women's Health Study, 24

work programs, 629–634

    re-entry (stroke rehabilitation), 625, 634

wrist extension, efficacy of functional electrical stimulation, 169