Subject Index

AAC assessment and intervention acceptance use of, 250-251 in acute rehabilitation, 228-233 alphabet supplementation, 203, 204 assessment for long-term AAC use, 235-239 case examples, 244, 245, 247-249 changing capabilities, 248-249 cognitive assessment, 239, 241-242 communication breakdown repair, 205 ensuring continuity of care, 234-235 example technology and activities for early phase of, 231 funding SGD system, 242-243 hearing screening for, 236-237 identifying consistent and reliable yes/no responses, 230-231 identifying response modality to specific stimuli, 228-229 implementation of, 244-246 initial interview and gathering pertinent background information for, 236 introduction to, 227-228 and lack of natural speech in Stage 1 dysarthria intervention, 195-196, 197 language assessment, 239-241 low technology AAC considerations 243-244 lower-extremity motor control and, 237-238 motor speech assessment, 239-240 natural speech supplemented by, in Stage 2 dysarthria intervention, 202-212, 218 - 219physical considerations for, 236-239 in post-acute rehabilitation, 235-246

in post-rehabilitation, 246-251 research on, 187 selection of AAC system, 242 shaping response modalities into communication, 229-230 social networks, 250 topic identification, 203-204 transition to post-rehabilitation, 246 transitioning living situations, 247 transitioning to post-acute rehabilitation, 233-235 upper-extremity motor control an 238-239 vision and spasticity, 231 visual deficits and, 231-AAC-RERC Web site, 243 AASP (Acute Aphasia Screening Protocol), 143 Abdominal binder, 199 Ablenet, 231 Abstract language assessment, 149 Abuse of people with impaired consciousness, 103-104 Acceleration-deceleration-dependent injuries acute cerebral swelling, 68 cerebral edema, 68-69 hematomas, 66-68 increased intracranial pressure, 69-70 primary mechanisms of, 61-65 rotational forces, 62, 63, 64-65 secondary mechanisms of, 61, 62, 66-70 translational forces, 62, 63-64 Accident neurosis, 33. See also Mild TBI (MTBI) Accommodation strategies in postsecondary education, 374, 376, 378 in workplace, 364-370

421

Acquired brain injury, 9, 12-13 Activity limitation, 138-139, 190 Acute Aphasia Screening Protocol (AASP), 143 Acute cerebral swelling, 68 Acute medial phase of recovery, 189 Acute rehabilitation AAC assessment and intervention during, 228-233 of cognitive-communication deficits, 140-167 continuity of care when transitioning from, 234-235 dysphagia, 259–272 identifying consistent and reliable yes/no responses for AAC system, 230-231 identifying response modality to specific stimuli for AAC system, 228-229 shaping response modalities into communication for AAC system, 229-230 vision and spasticity and AAC system, 231-232 ADA (Americans With Disabilities Act), 329-330, 367, 369-370, 374-375 Adapted blow bottle, 198-199 ADP (Aphasia Diagnostic Profiles), 143 Aerophone II measurement system, 198 Aerowin measurement system, 198 Affect, 134-135 Afghanistan war, 73–74 Age, and TBI, 16, 17 Air bags, 4, 22 Air pressure, 198-199 Air pressure transducer, 208-209 Airflow meter, 208 Alcohol use, 19 Alphabet boards, 244 Alphabet supplementation, 203, 204, 244 248 ALPS (Aphasia Language Performance S 143 Alzheimer's disease, 25, 26 Amantadine hydrochloride, 90 American Academy of Neurology, 39 American Speech-Language-Hearing Association (ASHA), 242, 396 Americans With Disabilities Act (ADA), 329-330, 367, 369-370, 374-375

ANAM. See Automated Neuropsychological Assessment Metrics (ANAM) Sports Medicine Battery (ASMB) Anatomy and physiology of the head. See Head anatomy and physiology Animal Naming Test, 154 Anoxia, 10 Antecedent supports, 171 Anxiety, 302-303, 383 Aphasia assessment of, 143-144 co-occurring with cognitivecommunication deficits, 142, 144 definition of, 121 distinguished from cognitivecommunication deficits, 121-122, 141-142 SGDs for persons with, 241 Aphasia Diagnostic Profiles (ADP), 143 Aphasia Language Performance Scales (ALPS), 143 Apprenticeships, 371–372. See also Work transitions APT (Attention Process Training), 160 Arachnoid mater, 58-59 Articulation intervention, 215-216 ASHA (American Speech-Language-Hearing Association), 242, 396 ASMB. See Automated Neuropsychological Assessment Metrics (ANAM) Sports Med-icine Battery (ASMB) Aspiration, 256-258, 272, 279 Assessment, See also AAC assessment and intervention; and specific assessment scales of abstract language, 149 **O**of aphasia, 143–144 of attention, 149-150 of auditory comprehension, 150 cognitive assessment, 239, 241-242 of cognitive-communication deficits, 137-140, 147–154, 155, 156 of communication effectiveness, 193-195 criteria-based assessment, 236 of dysarthria, 191-195 of dysphagia, 259-270 hearing screening, 236-237 of impaired consciousness, 86-89, 94-102

of integration and synthesis, 150 interest inventories, 363 job analyses, 363-366 of language, 239-241 of listener effort, fatigue, and acceptance in dysarthria assessment, 193 for long-term AAC use, 235-239 of memory, 150-151 of motor speech, 239-240 of orientation, 151-152 of physical status for use of AAC system, 236-239 predictive assessment, 236 of readiness to work, 362-364 of reasoning, 152-153 of respiratory system, 196, 198 situational assessments, 364 of speaking rate, 192-193 of speech intelligibility, 192, 217 of speech naturalness, 193 of speed of processing, 153 of swallowing, 259-264, 288-290 of velopharyngeal function, 208-209 of visual deficits, 231-232, 237 Assessment of Intelligibility of Dysarthric Speech, 192 Athletics. See Sports-related injuries Attention assessment of, 149-150 cognitive-communication deficits and, 145 definition of, 145 divided attention, 160 focused attention, 159 problems with, 294-296 restorative treatment of, 159-160 selective attention, 160 sustained attention, 159-160 Attention Process Training (APT), 160 Auditory comprehension assessment, 150 Augmentative and alternative communical tion (ACC) system. See AAC assessment and intervention Automated Neuropsychological Assessment Metrics (ANAM) Sports Medicine Battery (ASMB), 47 Automobile accidents, 1-18, 3-4 Automobile insurance, 15 Awareness issues, 298-299

Backward-chaining procedures, 170-171 Barbiturate coma, 24, 82-83 Barium swallow, modified (MBS), 264, 266 BASA (Boston Assessment of Severe Aphasia), 143 BDAE (Boston Diagnostic Aphasia Examination), 130, 143, 150, 154 Bedside Evaluation Screening Test (BEST), 143 Behavior ABCs, 308-310 Behavior problems, 299-300, 340, 349-350, 384 Beneficence, 397 Benton Visual Retention Test (BVRT), 150 BEST (Bedside Evaluation Screening Test), 143 BIGmack communication device, 229-230, 231 Bilabial closure, 202 Biofeedback, in dysarthria intervention, 198-199, 201, 202, 206-207, 216. See also INC. Neurofeedback Blast injuries mechanisms of, 11, 70-75 military personnel and, 14, 73-7 primary blast injuries, 70–73 quaternary blast injuries 71,74 secondary blast injuries, 71, 73–74 shell shock, 70-71 tertiary blast injuries, 71, 74 Blast wave, 71-72 Blast wind, 71-72 Blow bottle, adapted, 198-199 BNT (Boston Naming Test), 154 Boston Assessment of Severe Aphasia (BASA), 143 Boston Diagnostic Aphasia Examination (BDAE), 130, 143, 150, 154 Boston Naming Test (BNT), 154 Botox, 201-202, 249 Boxing, 39, 46 Brain imaging techniques, 63, 93 Brain injury. See Acquired brain injury; Traumatic brain injury (TBI) Breath-pause patterning, 217 Breathing pattern. See also Respiratory system in dysarthria intervention (Stage 1), 196

Breathing pattern (continued) in dysarthria intervention (Stage 3), 213-214 Brief Cognitive Status Exam, 151 Brief Test of Attention (BTA), 149 Brief Test of Head Injury, 150, 151, 152, 154 Brief Visuospatial Learning Test (BVMT), 150 Bromocriptine, 90 BTA (Brief Test of Attention), 149 BVMT (Brief Visuospatial Learning Test), 150 BVRT (Benton Visual Retention Test), 150 CADL (Communication Activities of Daily Living), 143 Calendar trends of TBIs, 19 California Verbal Learning Test (CVLT), 150 Cannula, 271, 272 Cardiac disorders, 20 Causes of TBI, 17-18 Cavitation effects, 64, 65 CBE (clinical bedside evaluation), 259-264, 288-290 Centers for Disease Control and Prevention, 13, 16, 37 Cerebral edema, 68-69 Cerebrospinal fluid, 60-61, 68 Cervical auscultation, 270-271 Children. See also School transitions with dysphagia, 256, 271–272, 278–279, 280 family systems changes and, 303 incidence of TBI in, 318-320 social skills of, 303 Chunking, 162 Classroom interventions. See School transitions Clear speech strategies, 215-216 Clinical bedside evaluation (CBE), 259-26-288-290 Clinical interview on dysphagia, 260, 26 Closed head injuries, 10, 11. See also matic brain injury (TBI) Cognitive assessment, 239, 241-242 Cognitive-behavioral deficits and dysphagia, 269 Cognitive-communication deficits acute care, 137-140 acute rehabilitation, 140-167 aphasia, co-occurring with, 142, 144

aphasia distinguished from, 121-122, 141-142 assessment of, 137-140, 147-154, 155, 156 characteristics of, 123-137 communication functions in postrehabilitation, 167 definition of, 122 discourse genres, 156 errorless learning, 169-170 extralinguistic behaviors, 123, 132-136, 155 intervention options in post-rehabilitation, 167-172 in isolation, 144 linguistic behaviors, 123-132, 155 neurofeedback, 157 paralinguistic behaviors, 123, 136-137, 155 positive everyday routines, 170-172 post-rehabilitation, 167-172 psychosocial functioning and, 294-299 reestablishing communication, 137 restorative treatment of, 154-167 transcranial magnetic stimulation (TMS) 156-157 underlying cognitive and psychosocial challenges, 144-147 CogState Sport, 47 Coherence, 125-126 Cohesion, 125-126 College education, 318, 373 -378. See also School transitions Coma. See also Impaired consciousness definition of, 81-82 length of, 23-24 medically induced coma, 24, 82–83 treatment of, 82–83 Coma stimulation, 93 Coma/Near Coma Scale, 94–98 Communication. See also AAC assessment and intervention; Cognitivecommunication deficits; Dysarthria assessment of communication effectiveness, 193-195 behavior as, 403 between families and speech-language pathologists, 385-388 functions of, in post-rehabilitation for cognitive-communication deficits, 167

maxims on, 129 and opportunities to do harm, 401-405 parent-school communications, 341-343 Communication Activities of Daily Living (CADL), 143 Communication boards, 244 Communication books, 244 Communication Effectiveness Survey, 194-195 Compensation neurosis, 33. See also Mild TBI (MTBI) Complex concussion, 40-41 Computed tomography (CT) scans, 63 Concussion. See Mild TBI (MTBI) Confidentiality, 397 Conflict management, 343-347 Conners' Continuous Performance Test (CPT), 149 Consciousness, disorders of. See Impaired consciousness Consolidation, 295 Continuing education, 370-378 Continuity of care, 234-235 Continuous positive airway pressure (CPAP), 215 Contrecoup injury, 63 Controlled Oral Word Association Test (COWAT), 154 Conversational discourse, 156 COWAT (Controlled Oral Word Association Test), 154 CPAP (continuous positive airway pressure), 215 CPT (Conners' Continuous Performance Test), 149 Cranial bones, 55-59 Craniotomy, 67 Cranium, 55-59 CRI (HeadMinder Concussion Resolution Index), 47 Cross-skill treatment for dysphagia, CT scans, 63 CVLT (California Verbal Learning Test), 150 Cytotoxic edema, 68–69

D-KEFS (*Delis-Kaplan Executive Functioning* System), 149, 152, 153, 154 Daily routines for cognitive-communication deficits, 170–172 Deep brain stimulation, 91 Delis-Kaplan Executive Functioning System (D-KEFS), 149, 152, 153, 154 Deltoid aid, 238 Dementia pugilistica, 46 Dementia Rating Scale (DRS), 149, 150, 152 Depressed skull fractures, 11 Depression, 301-303, 383 Descriptive discourse, 156 Diet. See Feeding Diffuse traumatic axonal injury, 62-63 Ding amnestic syndrome, 33. See also Mild TBI (MTBI) Discourse Comprehension Test, 150 Discourse genres, 156 Disincentives to work, 355 Disinhibition, 297, 300 Disorders of Consciousness Scale (DOCS), 100-102, 115-119 Divided attention, 160 Divorce, 384 DOCS (Disorders of Consciousness Scale 100-102, 115-119 Dream team, 360-362 DRS (Dementia Rating Scale), 149, 150, 152 Drug treatments. See Medications Drug use, 19 Drugs and Dysphagia: How Medications Can Affect Eating and Swallowing, 260 Dura mater, 58-59 DynaVox, 233 DynaWrite communication device, 244 Dysarthria assessment of, 191-195 case examples on, 197, 206, 213 communication effectiveness assessment, 193-195 early speech sound production (Stage 1 intervention), 201-202 framework for intervention, 186, 189-191 intervention stages for, 195-218 laryngeal intervention, 200, 214 listener effort, fatigue, and acceptance assessment, 193 nasal obturation (Stage 2 intervention), 211-212 natural speech supplement by AAC (Stage 2 intervention), 202-212, 218–219

Dysarthria (continued) no useful speech (Stage 1 intervention), 195-202 obvious speech disorder with intelligible speech (Stage 4 intervention), 216-218 oral articulation intervention (Stage 3), 215-216 palatal lifts, 209-211, 214 physiologic intervention (Stage 2), 205-207 prevalence and natural course of, 186-188 respiratory management, 196-201, 205-207, 213-214 speaking rate assessment, 192-193 speech characteristics of, 185, 188-189 speech intelligibility assessment, 192 speech intelligibility reduced in some situations (Stage 3 intervention), 212-216 speech naturalness assessment, 193 speech precision enhancement (Stage 2), 205 staging strategy for, 191-192 supplemented speech (Stage 2), 203-205 types of, 191 velopharyngeal intervention, 201, 207-212, 215 voluntary phonation (Stage 1 intervention), 199–201 Dysphagia acute recovery, 259-272 aspiration and, 256-257, 272, 279 chart review and case history, 260 clinical bedside evaluation (CBE), 259-264, 288-290 clinical interview, 260, 261 cognitive and behavioral deficits affecting, 269 cognitive-behavioral assessment of, 268-270 cross-skill treatment, 278 diet modifications, 275-276, 277 ethical consideration, 280-283 (evaluation of, 259-264 (C)exercise and, 276-278 gastroesophageal reflux (GER) and, 272, 274 imaging assessments of, 259, 264-266 impaired consciousness and, 270-271

incidence of, 25-56 Masako maneuver, 276-277 medications and, 260 neurogenic dysphagia, 255 objective assessments of, 264-270 pediatric issues in, 256, 271-272, 278-279, 280 physiological features underlying, 256 post-acute rehabilitation, 272-279 post-rehabilitation, 279-280 Shaker exercise, 277 signs and symptoms of, 257 swallowing maneuvers and compensatory postures, 274-275 thermal tactile stimulation (TTS), 277-278 tracheotomies and, 271-272 treatment of, 272-274 xerostomia and, 270

Education. See School transitions Education for All Handicapped Children Act. See IDEA (Individuals with Disabilities Education Act) EEG biofeedback. See Neurofeedback EEGs (electroencephalograms), 93 Electropalatography (EPG), 216 Emotional changes, 300-301. See also Psychosocial functioning Emotional lability, 135 Employment. See Work transitions Enabling Devices 231 Encoding, 295 Endoscopic equipment, 209 Environmental confounds, 101 EPG (electropalatography), 216 Epidemiology of TBI age and, 16, 17 calendar trends, 19 causes of TBI, 17-18 gender and, 15-17 preexisting medical conditions, 20 previous TBI as risk factor for, 19-20 prognosis for recovery, 21-26 risk factors, 19-20 severity of TBI, 20-21, 25 substance abuse, 19 Epidural hematomas, 66

ERICA eye-tracking technology, 238 Errorless learning, 169-170 Ethical issues abuse of people with impaired consciousness, 103-104 American Speech-Language-Hearing Association (ASHA) code of ethics, 396 behavior as communication, 403 beneficence, 397 case example, 398 confidentiality, 397 dysphagia, 280-283 exercise on, 400 framework for, 396-397 goal of "do no harm," 395-405 impaired consciousness, 103-104 informed consent, 322, 397 missing the context, 404 model of client-centered approach in clinical decision making, 281-282 not listening, 404–405 opportunities to do harm, 400-405 overpromising, 401-402 political correctness, 402-403 privacy issues, 322-325 quality of life, 281-282 quality of life of people with impaired consciousness, 103 respect for persons, 396-397 underpromising, 402 vulnerability of persons with TBI, 399-400 Etiology of TBI. See Causes of TBI Evacuating a clot, 67 Event recording, 310 Everyday routines. See Daily routines Executive functioning cognitive-communication deficits and 146 deficits of, 297 definition of, 165-166, 296-29 different terms for, 165 disinhibited responses, 297 goal-plan-do-review routines, 166-167 restorative treatment of, 165-167 Exercise and dysphagia, 276-278 Expository discourse, 156

Extradural hematomas, 66 Extralinguistic behaviors affect, 134-135 definition of, 123 eye gaze, 132-134 gestures, 135-136 list of, 155 Eve gaze, 132–134 Eve-gaze boards, 244 Eye Response Technologies, 238 Eye-tracking technology for SGDs, 238 Falls, 17, 18 Families accepting reality while building hope, 390-391 care and concern for, 387-389 communication between speech-language pathologists and, 385-388 education on TBI for, 389 explaining terminology to, 386 family systems changes, 303-304 impact of TBI on, 383-384 linking information with other clinical team members, 386–388 🗸 marital stability and marital stress, 303-304, 383-384 meaningfulness of activities, 390–391 needs of, 388–390 overpromising to, 401-402 parent permission to evaluate, 322 parent-school communications, 341-343 patience with, 389–390 of persons with dysphagia, 279-280 political correctness with, 402–403 relationship between speech-language pathologists and, 384-392 underpromising to, 402 and vocational assessment and service planning, 354 Family Educational Rights and Privacy Act (FERPA), 322-324 Family systems changes, 303-304 FDA (Frenchay Dysarthria Assessment), 267 Feeding diet modifications for dysphagia, 275-276, 277 normal development of, 273

FEES (fiber-optic endoscopic examination of swallowing), 259 FERPA (Family Educational Rights and Privacy Act), 322-324 Fiber-optic endoscopic examination of swallowing (FEES), 259, 264-266 FIM+FAM (Functional Assessment Measure), 139 First letter mnemonics, 163 Fiscosity, 276 fMRI, 93-94 Focused attention, 159 Forward-chaining procedures, 170-171 Frenchay Dysarthria Assessment (FDA), 267 Functional Assessment Measure (FIM+FAM), 139 Functional magnetic resonance imaging (fMRI), 93-94 Funding for SGD system, 242-243 Gag reflex, 263 Galveston Orientation and Amnesia Test (GOAT), 152 Gastroesophageal reflux (GER), 272, 274 GCS (Glasgow Coma Scale), 22-23, 26, 86-88, 269-270 Gender automobile insurance rates for teenage drivers, 15 prognosis for recovery, 25 TBI and, 15-17 Generalized responses, 89 GER (gastroesophageal reflux), 272, 274 Gestures, 135-136 GEWA Laser Pointer, 231, 238 Gist comprehension, 127-128 Glasgow Coma Scale (GCS), 22-23, 26, 86-88, 269-270 Goal-plan-do-review routines, 166-167. S also Executive functioning GOAT (Galveston Orientation and An Test), 152 Halstead-Reitan, 150 Head anatomy and physiology cranial bones, 55-59

cranial bones, 55–59 meninges, 58–60 neural tissue, 68 ventricular system, 60–61 Head-tracking technology for SGDs, 238 HeadMinder Concussion Resolution Index (CRI), 47 HeadMouse Extreme, 238 Health Insurance Portability and Accountability Act (HIPAA), 322-323, 325-326 Hearing screening, 236-237 Heart disease, 20 Hematomas, 66-68 High blood pressure, 20 Higher education. See Postsecondary education HIPAA (Health Insurance Portability and Accountability Act), 322-323, 325-326 Hopkins Verbal Learning Test (HVLT), 150 HVLT (Hopkins Verbal Learning Test), 150 Hyperadduction, 200 Hyperbaric oxygen treatment, 90-91 Hypernasality, 208, 215 Hypoadduction, 200 Hyponasality, 208 Hypothermia, 82-83 Hypoxia, 10

I-ASCC (Index of Augmented Speech Comprehensibility of Children), 192 ICF (International Classification of Functioning, Disability, and Health), 138– 139, 186, 189-191 ICP (intracranial pressure), 24, 69-70, 83 IDEA (Individuals with Disabilities Education Act), 318 administration of, U.S. Department of Education, 331 content of, 326-328 definition of TBI in, 11, 13, 327-328 determination of educational disability, 330-331 interrelationship of Section 504 and, 329-331 TBI as special education verification category under, 318, 319, 326-327 IEDs (improvised explosive devices), 73 IEPs, 326, 332, 342 Imaging assessments of dysphagia, 259, 264-266 Immediate memory, 295

Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT), 47, 49 ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing), 47, 49 Impaired consciousness. See also Coma acute stage of, 81-83 assessment of, 86-89, 94-102 deep brain stimulation, 91 dysphagia and, 270-271 ethical issues, 103-104 hyperbaric oxygen treatment, 90-91 length of, 23-24 medications for, 90 minimally conscious state distinguished from vegetative state, 84-89 ongoing assessment and monitoring change, 93-102 ongoing monitoring of status during postrehabilitation, 102 parameters for judging responses as consistent and reliable, 85 post-acute rehabilitation, 83-102 post-rehabilitation, 102-104 recovery from, 86-87, 102 sensory stimulation programs, 91-93 treatment of, 89-93 vegetative states, 23, 83-87, 102 Impairment of structural or functional integrity, 138, 190 Improvised explosive devices (IEDs), 73 Incidence and prevalence of TBI definition of incidence versus prevalence, 10 definition of TBI, 9-10 incidence statistics, 10, 13-15 injury reports, 12-13 prevalence statistics, 10 severity of TBI, 11-12 Incidental learning, 158 Index of Augmented Speech Comprehen of Children (I-ASCC), 192 Individualized Education Programs (IEPs), 326, 332, 342 Individuals with Disabilities Education Act. See IDEA (Individuals with Disabilities Education Act) Informed consent, 322, 397 Inhibition deficits, 299-300 Initiation deficits, 241-242, 299-300

Injury reports, 12-13 Inspiratory checking, 199. See also Respiratory system Insurance. See Automobile insurance Integration and synthesis assessment, 150 Intentional injuries, 12-13, 17, 18 Interest inventories, 363 International Classification of Functioning, Disability, and Health (ICF), 138-139, 186, 189-191 Interval recording, 310-311 Intonation, 136-137 Intonation patterning, 217 Intracerebral hematomas, 67–68 Intracranial hematomas, 67-68 Intracranial pressure (ICP), 24, 69-70, 83 Involuntary emotional expression disorder, 135 Iraq war, 14, 73-74 Jelly Bean switch, 231 JFK Coma Recovery Scale, 95, 98, 99 Job analyses, 363-366 Job restructuring, 369 Jobs. See Work transitions Journals about traumatic brain injury (TBI), 305 Kay Elemetrics Corp., 198 L-LOG (Orientation Log), 152 Lack of awareness, 298-299 Lamotragine, 90 Language assessment, 239-241 Language deficits. See Cognitivecommunication deficits Laryngeal intervention in dysarthria intervention (Stage 1), 200 in dysarthria intervention (Stage 3), 214 phonation and, 200 Laser pointers for SGDs, 238 Lee Silverman Voice Treatment (LSVT), 213-214 LightWriter, 247 Linguistic behaviors coherence and cohesion, 125-126 communication maxims, 129 definition of, 123 gist comprehension, 127-128

Linguistic behaviors (continued) list of, 155 logorrhea, 129 macrolinguistic processing, 123-124, 155 microlinguistic processing, 128-129 propositions, 132 story grammar, 126-127 tangential speech, 124 topic selection and maintenance, 124 topic shading, 124 verbal production, 129-131 word selection and retrieval, 131-132 Listener effort, fatigue, and acceptance assessment, 193 Living situation transitions, 247-248 Living with Brain Injury, 318 Localized responses, 89 Logorrhea, 129 Long-term memory, 295 Loudness increasing loudness for phonation in dysarthria intervention (Stage 1), 200-201 respiratory system management in dysarthria intervention (Stage 1), 196 Lower-extremity motor control, 237-238 LSVT (Lee Silverman Voice Treatment), 213-214 Macaw 5, 233 Macrolinguistic processing, 123-124, 155 Magnetic resonance imaging (MRI), 63 Magnetic resonance spectroscopy (MRS), 63 Malignant cerebral edema. See Second impact syndrome Malingering, 33-34 Marital stability and marital stress, 303-304, 383-384. See also Families Masako maneuver, 276-277 MAST (Mississippi Aphasia Screening Test 143 MBS (modified barium swallow Medicaid, 243 Medically induced coma, 24, Medicare, 243 Medications in dysarthria intervention (Stage 1), 202 dysphagia and, 260 impaired consciousness, 90

Memory assessment of, 150-151 chunking, 162 cognitive-communication deficits and, 145 definition of, 145 first letter mnemonics, 163 immediate memory, 295 long-term memory, 295 memory-enhancement techniques, 161-163 memory logs, 160-161 procedural memory, 295 prospective memory, 295 psychosocial functioning and, 294-296 quantifying, 162 restorative treatment of, 160-164 retrospective memory, 295 semantic memory, 295 sensory memory, 296 short-term memory, 295 ED'HC. spaced retrieval, 163-164 types of, 295-296 verbal rehearsal, 162 visual imagery, 162 Memory logs, 160-161 Meninges, 58-60 Mercury SGD, 233 Metacognition, 165. See also Executive functioning Methylphenidate, 90 Microlinguistic processing, 128-129 Mild TBI (MTBD). See also Sports-related injurie causes and frequency of, 18, 37-39 definition of, 35-36 difficulties with identification and diagnosis of, 33-34, 43-45 exclusion of, from TBI incidence and prevalence statistics, 11-12, 20 malingering versus, 33-34 measurement of TBI severity, 39-41 military personnel and, 14 PTSD distinguished from, 34, 44-45 return-to-play guidelines for coaches and athletes, 47-50 second impact syndrome, 46-47 simple versus complex concussion, 40-41 statistics on, 21, 37

symptoms of, 34, 35, 41-43 synonymous terms for, 33 treatment of, 45 Military personnel, 14, 44-45, 70-71, 73-74 Mini Inventory of Right Brain Injury, 149 Mini Mental State Examination (MMSE), 152 Minimally conscious states, 23, 83-84 Minor head injury. See Mild TBI (MTBI) Mississippi Aphasia Screening Test (MAST), 143 MMSE (Mini Mental State Examination), 152 Mnemonic strategies, 161-163. See also Memory Modified barium swallow (MBS), 264, 266 Monotonous speech, 207 Motor control and AAC system, 237-239 Motor speech assessment, 239-240 MRI, 63 MRS, 63 MTBI. See Mild TBI (MTBI) Multidisciplinary team (MDT), 326, 328, 330-332, 335 Multisensory stimulation programs, 93-94 NAB (Neuropsychological Assessment Battery), 152 Narrative discourse, 156 Nasal obturation, 211-212 Nasogastric (NG) tubes, 280 National Center for Injury Prevention and Control (NCIPC), 35-36 National Dysphagia Diet Task Force, 276, 277 NCCEA (Neurosensory Center Comprehensive Examination for Aphasia), 154 Near-drowning incidents, 10-11, 12 Neuro Logic, Inc., 198 Neurofeedback, 157. See also Biofeedback Neurogenic dysphagia, 255. See also Dysphagia Neuropsychological Assessment Battery (NAB), 152 Neurosensory Center Comprehensive Examination for Aphasia (NCCEA), 154 NG (nasogastric) tubes, 280 Nil per os (nothing by mouth), 258, 279 North Star Project, 158 NPO (nothing by mouth), 258, 279

OCR (Office for Civil Rights), 330, 374 Office for Civil Rights (OCR), 330, 374 Office of Special Education and Rehabilitation Services (OSERS), 331 Open head injuries, 10. See also Traumatic brain injury (TBI) Operational definition, 309-310 Oral articulation. See Articulation intervention Orientation assessment of, 151-152 cognitive-communication deficits and, 145 definition of, 145, 157 restorative treatment of, 157-159 Orientation Log (O-LOG), 152 Origin Instruments, 238 OSERS (Office of Special Education and Rehabilitation Services), 331 Outcome of TBI, 40. See also Prognosis for recovery Overpromising, 401-402 Paced Auditory Serial Addition Task (PASAT 153 Pacer/Tally Software Application, 19 Palatal lifts, 209-211, 214 PALPA (Psycholinguistic Assessment of Language Processing in Aphasia), 143 Paralinguistic behaviors definition of, 123 list of, 155 prosody, 136-137 rhythm 136-137 tone and intonation, 136–137 Paramatta Hospitals Assessment of Dysphagia (PHAD), 267 Parent permission to evaluate, 322 Parents. See Families Participation restrictions, 139, 190 Partner-dependent scanning boards, 244 PASAT (Paced Auditory Serial Addition Task), 153 Passy-Muir valve, 272 Pathological laughing and crying, 135 Pediatric issues. See Children Penetration/Aspiration Scale, 268 People with traumatic brain injury. See Survivors of traumatic brain injury

Persistent vegetative state, 23, 84, 102 Persuasive discourse, 156 PHAD (Paramatta Hospitals Assessment of Dysphagia), 267 Pharmacological intervention. See Medications Phonation establishing voluntary phonation in dysarthria intervention (Stage 1), 199-201 increasing loudness, 200-201 laryngeal efficiency, 200 optimizing phonation function in dysarthria intervention (Stage 2), 207 postural adjustments, 200 Physical capabilities, changes in, 248-249 Physiologic intervention in dysarthria intervention, 205-207, 218 establishing consistent respiratory function for speech, 205-207 optimizing phonation function, 207 speech intelligibility, 218 Pia mater, 59, 60 PICA (Porch Index of Communicative Ability), 143 P.L. 94-142. See IDEA (Individuals with **Disabilities Education Act**) Pneumotachometer, 208 Pointing device for SGDs, 238 Political correctness, 402-403 Porch Index of Communicative Ability (PICA), 143 Portland Digit Recognition, 33 Positioning confounds, 101 Post-acute rehabilitation AAC assessment and intervention during, 235-246 assessment for long-term AAC use, 235-239 continuity of care when transitioning to 234-235 dysphagia, 272-279 funding for SGD system, 242-243 implementation of AAC system, 244-246 low technology AAC considerations, 243-244 motor speech, language, and cognitive assessment, 239-242 selection of AAC system, 242

settings for, 235 transition from, to post-rehabilitation, 246 transition to, and AAC assessment and intervention, 233-235 Postconcussive syndrome, 41. See also Mild TBI (MTBI) Post-rehabilitation AAC assessment and intervention during, 246-251 acceptance use of AAC system, 250-251 changing capabilities and AAC system, 248-249 of cognitive-communication deficits, 167-172 definition of, 189 dysphagia, 279-280 errorless learning, 169-170 of impaired consciousness, 102-104 positive everyday routines, 170-172 social networks and AAC system, 250 transition to, and AAC assessment and intervention, 246 transitioning living situations and AAC system, 247 Postsecondary education, 318, 37 -378. See also School transitions Post-traumatic amnesia (PTA) definition of, 23, 138 duration of, and TBI severity, 24, 25, 39, 138 Posttraumatic stress disorder (PTSD), 34, 44-45 Postural adjustments for phonation, 200 PowerLink, 231 Pragmatic behaviors, 164–165 Preexisting medical conditions, 20 Preparing for Life after High School, 318 Prevalence. See Incidence and prevalence of TRI Previous TBI, as risk factor for future TBI, 19-20 Primary blast injuries, 70-73. See also Blast injuries Primary mechanisms of accelerationdeceleration-dependent injuries, 61-65 Privacy issues, 322-325 Problem solving, 145-146

Procedural discourse, 156 Procedural memory, 295 Prognosis for recovery. See also Outcome of TBI extent and location of brain damage, 21 - 23gender and, 25 genetic predisposition and, 24-26 length of impaired consciousness, 23-24 Propositions, 132 Prosody, 136-137, 217-218 Prospective memory, 295 Psychiatric illness, 20 Psycholinguistic Assessment of Language Processing in Aphasia (PALPA), 143 Psychosocial functioning analysis of problem behavior in intervention for, 307-310 appropriate versus inappropriate psychosocial outcome, 307-308 awareness issues, 298-299 behavioral changes, 299-300 cognitive changes, 294-299 cognitive-communication deficits and, 144-147 components and definitions of, 145-146 definition of, 293 emotional changes, 300-301 executive functioning, 296-297 exercise on, 302 family systems changes, 303-304 follow-up in intervention for, 311-313 interventions targeting psychosocial challenges, 304-313 memory and attention challenges, 294-296 plan development in intervention for, 308-311 problem identification in intervention for 306-307 social integration and, 294-304 social interaction issues, 301-303 speech of processing, 297 tips for psychosocial interventions, 312-313 PTA. See Post-traumatic amnesia (PTA) PTSD. See Posttraumatic stress disorder

(PTSD)

Pulse oximetery, 271 Punch-drunk syndrome, 46 Quality of life, 103, 281-282, 378-379 Quantifying, 162 Quaternary blast injuries, 71, 74. See also **Blast** injuries Quick Assessment of Aphasia, 144 Radiation treatment, 12-13 Rancho Los Amigos Levels of Cognitive Functioning, 88-89, 109-114, 140, 187, 227, 228, 233, 235, 270 RAVLT (Rey-Osterrieth Auditory Verbal Learning Test), 150 **RBANS** (Repeatable Battery for the Assessment of Neuropsychological Status), 149, 151 **RBHOMS** (Royal Brisbane Hospital Outcome Measure for Swallowing), (RBHOMS), 268 Readiness to work, 362-364. See also Work transitions Reasonable accommodations, 369. See also Accommodation strategies Reasoning assessment, 152-153 Recovery phases, 189. See also Post-acute rehabilitation; Post-rehabilitation; Prognosis for recovery Recurrent traumatic brain injury. See Second impact syndrome Rehabilitation. See also Acute rehabilitation; Ethical issues; Post-acute rehabilitation; Post-rehabilitation; Treatment medical and educational natures of, 397-399 phase of, 189 reflections of rehabilitation novice, 401 Rehabilitation Act Section 504, 328-331, 374 Rehabilitation Institute of Chicago Evaluation of Communication Problems in Right Hemisphere Dysfunction, 149 Rehabilitation Institute of Chicago Functional Assessment Scale (RIC-FAS), 268 Repeatable Battery for the Assessment of Neuropsychological Status (RBANS), 149, 151 Respect for persons, 396-397

Respiratory paddle, 199

Respiratory prosthesis, 199 Respiratory system adapted blow bottle, 198-199 air pressure measurement, 198 assessment of, 196, 198 breathing pattern, 196 dysarthria intervention (Stage 1), 196-199, 206 dysarthria intervention (Stage 2), 205-207 dysarthria intervention (Stage 3), 213-214 eliminating abnormal respiratory behaviors, 199 establishing consistent subglottal air pressure, 198-199 inspiratory checking, 199 loudness, 196 normalizing breath patterning, 213-214 respiratory prosthesis, 199 respitrace unit, 198, 206-207 speech intelligibility and, 213-214 Respitrace unit, 198, 206-207 Restorative treatment. See Treatment Retrieval, 295 Retrospective memory, 295 Rey Auditory Verbal Learning Test, 152 Rey-Osterrieth Auditory Verbal Learning Test (RAVLT), 150 Rey Osterrieth Complex Figure Test (ROCF), 150 Rhythm, 136-137 RIC-FAS (Rehabilitation Institute of Chicago Functional Assessment Scale), 268 RIPA (Ross Information Processing Assessment), 151, 152, 153 Risk factors, 19-20 Rivermead Behavioural Memory Test, 151 ROCF (Rey Osterrieth Complex Figure Test), 150 Ross Information Processing Assessment (RIPA) 151, 152, 153 Ross Test of Higher Cognitive Processes, 153 Rotational forces, in accelerationdeceleration-dependent injuries, 62, 63, 64 - 65Royal Brisbane Hospital Outcome Measure for Swallowing, (RBHOMS), 268

SAC (Standardized Assessment of Concussion), 47, 49

Safety devices, 4, 22 Safety issues in workplace, 370 SB (Stanford-Binet Intelligence Scales), 151, 153 SBS. See Shaken baby syndrome (SBS) Scales of Cognitive Ability for Traumatic Brain Injury (SCATBI), 150, 151, 152, 153, 154 SCAT (Sport Concussion Assessment Tool), 47, 49 SCATBI (Scales of Cognitive Ability for Traumatic Brain Injury), 150, 151, 152, 153, 154 Schedule for Oral-Motor Assessment (SOMA), 267 School transitions. See also IDEA (Individuals with Disabilities Education Act); Postsecondary education behavioral problems and interventions, 299-300, 340, 349-350 classroom interventions, 347-350 complexities of, 334–340 conflict management, 343-347 determination of educational disability, 330-331 disabilities categories for special education eligibility, 331 elements of successful transition 341-343 exercise on, 336 failure to follow special education sequence, 331-332 IEPs and, 326, 332, 342 incidence of TBI in children, 318-320 information gathering for, 341-343, 346--347 intervention avenues, 321–331 Vlaws pertaining to, 322-331 medical records and therapy reports for, 333, 341-342 medical versus educational approaches on, 331-334 multidisciplinary team (MDT) and, 326, 328, 330-332, 335 parent permission to evaluate, 322 parent-school communications, 341-343 post-secondary transition, 318 preschoolers, 318 privacy issues, 322-325 questions on, 338-339

special education terminology and abbreviations, 327 TBI team, 345-347 tips and scripts, 320, 323-325, 329, 331, 333-335, 339, 340, 342, 344-346 variables in, 337 Seat belts, 4 Second impact syndrome, 46-47 Secondary blast injuries, 71, 73-74. See also Blast injuries Secondary mechanisms of accelerationdeceleration-dependent injuries, 61, 62, 66-70 Section 504, 328-331, 374 Selective attention, 160 Selective Reminding Test, 151 Self-determination, 165. See also Executive functioning Self-regulation, 165. See also Executive functioning Semantic memory, 295 Semi-awake, 86. See also Impaired consciousness Semi-conscious, 86. See also Impaired consciousness Sensory memory, 296 Sensory Modality Assessment and Rehabilitation Technique (SMART), 99-100 Sensory stimulation programs, 91-93 Severity of TBI blast injuries, 73 different systems for measurement of, 39-41 duration of posttraumatic amnesia (PTA) and, 24, 25, 39, 138 epidemiology and, 20-21 incidence and prevalence statistics and, 11-12 SGDs (speech-generating devices). See also AAC assessment and intervention direct selection for, 238 evaluation for, 233-234 funding for, 242-243 hearing deficits and, 236-237 initiation problems with, 241-242 low-tech strategies supplementing, 243 - 244lower-extremity motor control and, 237-238

for persons with aphasia, 241 practice and repetition for mastery of, 241 scanning options for, 239 support for use of, 234, 241-242 switch access for, 239 touch screen for, 239 transitioning to post-acute rehabilitation with, 233-234 types of, 233-234 upper-extremity motor control and, 238-239 visual deficits and, 237 word-prediction software for, 240 words or phrases on overlays for, 240-241 Shaken baby syndrome (SBS), 12, 14 Shaker exercise, 277 Shearing strain, 65 Shock, 71-72 Short-term memory, 295 Silent aspiration, 257, 279. See also Aspiration Simple concussion, 40-41 Situational assessments, 364 Skull fractures, 56-58 SMART (Sensory Modality Assessment and Re habilitation Technique), 99-100 Social integration, 294-304 Social interaction issues, 301-303 Social networks, 250 Social Networks: A Communication Inventory, 250 Social Security Disability Insurance (SSDI), 355 SOMA (Schedule for Oral-Motor Assessment), 267 Spaced retrieval, 163-164 Spasticity, 231–232 Speaking rate assessment, 192–193 Speaking rate control, 215 Special education. See IDEA (Individuals with Disabilities Education Act); School transitions Speech-generating devices. See SGDs (speech-generating devices) Speech intelligibility assessment of, 192, 217 breath-pause patterning, 217 clear speech strategies, 215-216 in dysarthria intervention (Stage 3), 212-216

Speech intelligibility (continued) dysarthria intervention (Stage 4), 216-218 enhancing speech, 217-218 intonation patterning, 217 laryngeal intervention (Stage 3), 214 physiologic intervention, 218 prosodic elements of speech, 217-218 respiration intervention to normalize breath patterning, 213-214 stress patterning, 217 velopharyngeal intervention to maintain optimal function (Stage 3), 214-215 Speech Intelligibility Test, 192-193 Speech-language pathologists. See also AAC assessment and intervention; Acute rehabilitation; Dysphagia; Post-acute rehabilitation; Post-rehabilitation; Treatment dysphagia treated by, 255 families' relationship with, 384-392 mild TBI (MTBI) treated by, 45 Speech naturalness assessment, 193 Speech of information processing, 297 Speech precision enhancement, in dysarthria intervention (Stage 2), 205 Speech production deficits. See Dysarthria Speech sound production early speech sound production, 201-202 supplemented by AAC in dysarthria intervention (Stage 2), 202-212, 218-219 velopharyngeal intervention to support, 201 Speed of processing assessment, 153 Spinal tap, 60 Sport Concussion Assessment Tool (SCAT), 47, 49 Sports-related injuries. See also Mild TBI (MTBI) in boxing, 39, 46 as cause of mild TBI (MTBI), 18, 37measurement of injury severity for, 40-41 of professional athletes, 38-39 reporting of, 12-13 reporting or, 12–13 return-to-play guidelines after TBI, 47–50 second impact syndrome, 46-47 statistics on, 18, 37-39 by type of high school and college sports, 3-738

SSDI (Social Security Disability Insurance), SSI (Supplemental Security Income), 355 Staging, 191-192 Standardized Assessment of Concussion (SAC), 47, 49 Stanford-Binet Intelligence Scales (SB), 151, 153 Stoma, 271 Story grammar, 126–127 Stress patterning, 217 Structural or functional integrity impairment, 138, 190 Stuporous, 86. See also Impaired consciousness Subarachnoid hematomas, 67 Subarachnoid space, 59-60 Subdural hematomas, 66-67 Subdural hydroma, 67 Subdural hygroma, 67 Subglottal air pressure, 198–199 Substance abuse, as risk factor for TBI, 19 Suicide attempts, 20 Supplemental Security Income (SSI), Supplemented speech. See also AAQ ment and intervention alphabet supplementation, 203, 204 communication breakdown repair, 205 topic identification, 203-204 Survivors of traumatic brain injury, 3-7. See also Traumatic brain injury (TBI) Sustained attention, 159-160 Swallowing See also Dysphagia assessment of, 259-264, 288-290 maneuvers and compensatory postures for dysphagia, 274–275 Onormal development of, 273 stages in, 262-263 Switch access for SGDs, 239 Tangential speech, 124

TBI. See Survivors of traumatic brain injury; Traumatic brain injury (TBI)
TBI team in schools, 345–347
TEA (Test of Everyday Attention), 149
Tertiary blast injuries, 71, 74. See also Blast injuries
Test of Everyday Attention (TEA), 149 Test of Memory Malingering, 33-34 Test of Memory Malingering (TOMM), 151 Test of Variables of Attention (TOVA), 149 Testing. See Assessment; and specific assessment scales Testing-readiness confounds, 101 Thermal tactile stimulation (TTS), 277-278 Time-sampling, 311 TMS. See Transcranial magnetic stimulation (TMS) TMT (Trail Making Test), 150 Tobii ATI, 233 TOMM (Test of Memory Malingering), 151 Tone and intonation, 136-137 Tongue holding, 276-277 Topic identification, 203-204 Topic selection and maintenance, 124 Topic shading, 124 Touch screen for SGDs, 239 TOVA (Test of Variables of Attention), 149 Trach tube, 271 Tracheostoma, 271 Tracheotomy, 271-272 Trail Making Test (TMT), 150 Transcranial magnetic stimulation (TMS), 156-157 Transitions. See Post-acute rehabilitation; Post-rehabilitation; School transitions; Work transitions Translational forces, in accelerationdeceleration-dependent injuries, 62, 63 - 64Transportation, 366-367 Traumatic brain injury (TBI). See also Assessment; Cognitive-communication deficits; Dysarthria; Dysphagia; Ethical issues; Mild TBI; Survivors of traumatic brain injury age and, 16, 17 COPY calendar trends of, 19 causes of, 17-18 closed head injuries, 10, 11 definition of, 9-11, 327-828 epidemiology of, 15-26 gender and, 15-17 incidence and prevalence of, 9-15 incidence statistics, 13-15, 318-320 injury reports, 12-13

journals about, 305 open head injuries, 10 prognosis for recovery, 21-26 risk factors, 19-20 severity of, 11-12, 20-21, 25, 39-41 societal changes and occurrence of, 22 vulnerability of persons with, 399-400 Treatment. See also Acute rehabilitation; Ethical issues; Post-acute rehabilitation in first hour following TBI, 62 of mild TBI (MTBI), 45 neurofeedback, 157 restorative treatment of cognitivecommunication deficits, 154-167 transcranial magnetic stimulation (TMS), 156-157 Tricare, 243 Tricyclic antidepressants, 90 TTS (thermal tactile stimulation), 277-278 Twin Talk, 231 U-tube manometer, 198 Underpromising, 402

Undue hardship in workplace accommoda tions, 369 Unintentional injuries, 12, 17, 18 Upper-extremity motor control, 238-239 U.S. Department of Defense, 14 U.S. Department of Education, 374 Vanishing cues, 170 Vasogenic edema, 68 Vegetative states, 23, 83-87, 102 Velopharyngeal function (CPAP), 215 in dysarthria intervention (Stage 1), 201 in dysarthria intervention (Stage 2), 207-212 in dysarthria intervention (Stage 3), 214-215 endoscopic equipment for visualization of velopharyngeal mechanism, 209 nasal obturation, 211-212 palatal lifts, 209-211, 214 speaking rate control, 215 Ventricular system, 60-61

Verbal Motor Production Assessment of Children (VMPAC), 267 Verbal production, 129-131 Verbal rehearsal, 162 Veteran's Administration, 243 Videofluoroscopy, 259, 264 Visual deficits and AAC assessment and intervention, 231-232, 237 Visual imagery, 162 Vmax SGD, 233 VMPAC (Verbal Motor Production Assessment of Children), 267 Vocational Rehabilitation agency, 365 WAB (Western Aphasia Battery), 144 WAIS (Wechsler Adult Intelligence Scale), 149, 151, 153 WCST (Wisconsin Card Sorting Test), 153 Wechsler Adult Intelligence Scale (WAIS), 149, 151, 153 Wechsler Memory Scale (WMS), 151, 152 Western Aphasia Battery (WAB), 144 Western Neuro Sensory Stimulation Profile (WNSSP), 98-99 Wide Range Assessment of Memory and Learning (WRAML), 151 Wisconsin Card Sorting Test (WCST), 153 WMS (Wechsler Memory Scale), 151, 152 WNSSP (Western Neuro Sensory Stimulation Profile), 98-99 Woodcock-Johnson-III, Tests of Cognitive Ability, 150, 153 Word Memory Test, 33-34 Word-prediction software, 240 Word selection and retrieval, 131–132 Work-based learning, 371–373 Work Incentives Improvement Act, 355-356 Work Options Array, 356–360 Work transitions accommodation strategies in workplace, 364–370

apprenticeships, 371-372 array of work options, 356-360 assessment of readiness to work, 362-364 continuing education and, 370-378 definition of work, 356 difficulties in obtaining and retaining postinjury employment, 353-354 disincentives to work, 355 dream team for, 360-362 employee misconduct, 370 home or satellite offices, 367 interest inventories, 363 job analyses, 363-366 job restructuring, 369 law on, 367, 369-370 matchmaking between worker and workplace, 362-370 part-time jobs, 366 physical work environment, 366 post-injury employment rates, 353 questions on, 357 redefining work-related dreams, values, work-related dreams, values, 357. 360-262 safety issues, 370 situational assessments, 364 social context of employment, 354-355 transportation, 366-367 work-based learning, 371-373 work schedules, 366 Workforce Investment Act, 355 World Health Organization, 138-139, 186, 189-191 WRAMD Wide Range Assessment of Memory and Learning), 151

Xerostomia, 270

Zygo Industries, Inc., 231, 233