

A

ACL injury, 65-66, 306, 325, 369
 acquired movement dysfunction, 48-49
 acromioclavicular joint, 125, 218, 326
 active straight-leg raise (ASLR), 80
 analyzing screen results, 200, 211-213
 corrective strategies, 293, 300-301
 corrective prioritization, FMS, 248
 FMS description and images of, 98-99
 FMS scoring criteria, 377
 FMS verbal instructions, 384
 modification hierarchy, 106
 SFMA assessment of, 146-147
 video of, 200
 active isometric stability, 294
 active mobility, 265-266
 active versus passive hip external problems, 164-165
 anatomy, 25, 35-45
 anatomical
 science vs functional science, 35-36, 43-47, 50
 structure(s), 35-45
Anatomy Trains, book, 39
 ankle
 breakouts, 179-182,
 dorsiflexion, 176, 184, 195, 387
 dysfunction, 180
 eversion, inversion, 181-182, 387
 flowchart, 350
 plantar flexion, 181
 restrictions, 195, 319-329
 anterior pelvic position, *see pelvis*
 anterior chain tissue extensibility dysfunction, 151, 160
 lower, 180-186
 anticipatory core stability, 300-301
 anxiety breathing, 135, 260, 353
 apical breathing, 260-261, 353
 Apple, Brandy, 4
 Arnold, Todd, 357-358
 arterial flexibility/stiffness, 213
 assessment list, SFMA, 76-78
 breakout list, 136
 flowcharts, 337-352
 top-tier, 75, 123
 assisted single-leg deadlifting, 278
 assisted deep squat, 136, 183-184
 assistive mobility corrections, 266-267
 asymmetric
 extremity activity, 84
 hip mobility, 92, 98
 hurdle, 206
 lunge, 121, 329
 movement pattern, 32, 67, 73, 96, 80-84, 206-209, 260
 score, 113, 301
 stance, 94, 249, 254, 271, 284
 vs symmetric, 113, 194-195
 see also, symmetric

Athletic Body in Balance, book, 29, 293-294
 atlantoaxial joint mobility dysfunction, 137
 authentic
 end range, 41
 exercise, 309
 movement, 43-44, 47, 53-55, 64, 261-265, 306-309, 312
 squatting movement pattern, 297
 stability, 38, 286, 303, 327
 automatic
 compensation, 35, 207
 reflex-based mobility, 200
 righting reactions, 255
 autonomic nervous system, 239-240, 263, 334

B

back pain
 complexity of, 227
 joint by joint theory and, 319-321
 motor control with, 117-118
 movement patterns and, 217, 260
 pain memory, 289-291
 patient complaints of, 109-110
 possible causes of, 27
 self-evaluation questionnaire, 391
 backward bend
 assessment results hierarchy, 114, 119, 248-249
 SFMA assessment, 152-154, 160-161
 SFMA extension rationale, 149
 balance, proprioception and equilibrium, 63, 260
 balance reach test, 367-372
 bands, use of, 26, 41, 88, 200, 217, 226, 296-297, 299, 301-302, 357-361
 see also reactive neuromuscular training
 Hoogenboom, Barbara, 296
 barefoot sensory experience, 231, 308
 bias
 toward stability, 80
 toward cardiovascular health goals, 68
 toward mobility, 80
 toward performance, 65
 biomarker of nervous system quality, 334
 biomechanical testing, 133-135, 142-143, 151, 160, 175, 178, 257
 bipedal standing posture, 203
 Blakeslee, Sandra, 255
Blink, book, 59
Born to Run, book, 231-232, 307
 bottom-up activities, 208, 233
 Boyle, Michael, 319-321, 357-358
 breakdown of a pattern, 116, 238-240
 breakout rationale, *see rationale*
 breakouts, list of, 76-78
 see Chapter 8 for descriptions
 breathing
 capnography, 261, 353
 corrective exercise progressions and, 226
 drills, 216, 265
 dysfunction, 135

breathing, continued
end range, 41, 108
holding the breath, 41, 255, 272, 274
mechanics, 353
overview, 40-41
patterns, 216, 261
screening of, 260-261
self-limiting activities and, 230-233
shallow breathing, 41, 255-255, 286-287
stress breathing, 28, 135, 265
yoga and, 57

Brigham, Heidi, 4
broad categories of mobility, 235
Brookfield, John, 233
buffer zone, 209, 223-224
Butler, Robert, 357-358, 372

C

cable bar dvd, 200
capnography, 261, 353
categories of

activity, 313
corrective exercise, 304
movement dysfunction, 49

central nervous system (CNS)
deliberate practice and, 227
motor control and, 134-135
movement patterns and, 20-21, 67, 104, 314-315, 360
muscles and, 38-40
pain and, 117-118

Certified Kettlebell FMS, 248
cervical

breakout rationale, 137
extension, 138, 141
flexion, 131, 138-139
flowchart, 339
mobility/stability problems, 272-273, 297-299
movement patterns, 113, 187, 215-216, 272-273
rotation, 141
spine mobility, 138-139
spine assessment, 140-141
tests, SFMA, 138-141

challenging versus difficult, 57, 234

Cheng, Mark, 357-358

chest mobility requirements, 150-152

Chi running, 233

childhood development, 44

see also developmental movement milestones

chiropractic, 24, 51, 58, 110, 201, 265

choice of transitional postures, 285

chop and lift, 233, 254, 302

CL, *see conscious loading*

clean/squat/press double bottom-up, 233

clearing tests

description of, 85-86
FMS, criteria of 375, 378-379
modification hierarchy, 106
rotary stability, rocking, 102
shoulder reaching, 96
trunk stability, 100
upper extremity, SFMA top-tier, 125

climbing, 29, 102, 204, 215, 233, 244

clinical test for sensory interaction on balance, 175-177

see also, vestibular

clueless movement perception problem, 287-290

CO₂, 263, 332

cognitive programming, 67, 296

Colvin, Geoff, 44-45, 227

common corrective exercise mistakes, 217, 220

compensation behavior

habits and patterns, 30-32, 47-49, 215-218, 259-260, 315

hurdle step, lunge and single-leg stance, 92, 201-208

joint by joint concept, 319-329

overview of, 39, 43

pain and, 68-69, 109-110, 267

progressions, 62, 244-245, 252-254, 268-269, 274-275, 282-285

screen scoring and, 80-85

squatting and, 196-197

comprehensive checklist of potential problems, 388

Conca, Steve, 357-358

concept of

difficulty, 58

movement pattern dysfunction, 229

posture, 17, 118

screening, 79

conditioning vs corrective, 50, 58-60, 235, 244-248, 251

conscious loading (CL), 297-301

consistent movement problems, 285

consistent production of pain, 122

constructive sensory challenge, 57, 304

contrasting dysfunctions, 109

Contreras, Mike, 357-358

conventional corrective exercise, 201, 272

conventional deep squat evaluation process, 387

conventional movement appraisal systems, 64

Coopersmith, GERALYN, 357-358

core

breakouts, 175-176

control, 27, 54, 105, 196, 211-213, 233, 255, 290, 364-365

flowchart, 349

SMCDS, 150

strength, 53, 202, 217, 260

testing, 367-371

core stability

continuous, 98

half-kneeling and, 274-275

hip and, 263-264

in essential foot positions, 79, 90

inline lunge and, 208-209

joint by joint concept of, 319-329

overhead squat and, 182

pattern-specific, 43, 206-207, 300

rotary stability and, 248

RNT and, 200-201, 295-296

rolling and, 175-176, 188-189

screening of, 90-100

test via Y Balance, 367-372

correct versus corrective, 229-231, 307

corrective exercise

and the FMS, 239-241, 248

and the SFMA, 241-242, 249

categories, 106, 235, 238, 257, 264

experience, 49, 69, 83, 114-115, 187, 264, 284, 290, 299, 314

exercise progressions, 104-106, 122, 194, 218, 226-228, 254-259

framework, 219-221, 253, 255-261, 264-266, 287-292, 309

goals of, 234-235

strategy, 62, 80, 85, 115, 195-199, 204-205, 210-213, 272-274,

302, 314-315

Cosgrove, Alwyn, 357-358

Cosgrove, Rachel, 357-358

Covey, Stephen, 129
Coyle, Daniel, 286, 314
crawling and creeping patterns, 102, 215
CSRIB, 178
Cyriax, Dr. James, 108

D

Dagati, Eric, 357-358

deadlift

- balancing strategy of, 121-122
- conscious loading with, 298-299
- corrective, use of 289-290
- corrective, as RNT, 278
- hip hinge, 260
- resisted exercise using, 301-302
- self-limiting exercise, 233
- single-leg, 277-279
- teaching, 290-291

deductive logic, 21

deep squat

- ankle influence on, 195
- analyzing the screen, 191-201
- assessment, 106, 128-129, 182-184
- conscious loading, 299
- conventional evaluation, 387-390
- corrective strategies, overview, 246-247
- examples of limitations, 195-196
- FMS corrective prioritization, 248
- FMS description of and images, 90-91
- FMS scoring criteria, 373
- FMS verbal instructions, 381
- modification hierarchy, 106
- motor control of, 328
- movement pattern, 90, 197-200, 300
- reverse patterning of, 199-200
- RNT for, 200-201
- screening mistakes, 193-194
- stability and mobility in, 196-197
- see also, SFMA overhead squat*

degenerative problems, 38, 59, 68, 159, 267, 313, 327

degree of active control, 266

DeRosa, Carl, 321

developmental movement dysfunction, 47

developmental movement milestones, 29, 47, 186-189

diagonal movement(s), 29, 35, 102, 215, 384

diaphragmatic breathing patterns, *see breathing*

difference between the systems, 23-24, 59-63, 74-78

dissection and reconstruction, 45

DJD, *see degenerative problems*

dorsiflexion, *see ankle*

Draovitch, Pete, 357-358

Draper, Laree, 357-358

Dubner, Stephen, 305

Du Cane, John, 357-358

dynamic leg swings, 127-128, 175, 178

dynamic stability

- corrections, 268, 273-279
- definition of, 83
- FMS corrective prioritization, 248
- hurdle step, inline lunge and, 92-95
- leg swing and, 128
- movement patterns and, 197-198, 203-207
- problems with, 287-288, 360-361
- Y-Balance Test and, 367-372
- see also, overhead squat*

E

edge of ability, 269, 289, 295, 312, 314

elbow assessments, 84, 129, 156, 163

elements of the SFMA, 114-115

end-range function

- breath and, 108-109, 261
- core testing and, 367-372
- corrective strategies and, 240-241, 253-254, 264-267
- description of, 41
- reverse patterning and, 293, 297

endorphins, 230, 308-309

energy system, 50, 56, 67, 205-206

eversion, 136, 176, 180-182, 325-326, 387

see also, inversion

exercises, elimination of, 228

extension problems, 149-153

see also, specific joint

external rotation, *see specific joint*

eyes, *see vestibular*

F

FABER Test, 158-159, 396

facilitation techniques, 216, 269, 280, 358-360

Falsone, Sue, 357-358

fascial system, 39-40, 44, 46, 135, 209, 238, 247, 268, 280, 300, 327

fear memory, 117, 261-262

Feldenkrais Method 233

Fields, Keith, 357-358

Fish, Joe, 357-358

flexibility

- active straight-leg raise and, 98-99, 211-212

- arterial, 213

- end range, 226

- imbalances, 68

- limitations in, 56-57, 84, 238, 301

- movement patterns and, 30, 198, 240

- multi-articular muscles, 94, 98

- of a particular bodypart, 30

- of the prime mover, 79

- pain and, 50

- passive and active corrections of, 265-267

- performance pyramid and, 223-224

- restriction of the latissimus, 196

- rolling and, 216

- shoulder mobility and, 209-210

- testing of, 120

- versus stiffness, 27

- see also, yoga*

flexion,

- clearing, 106

- dysfunction, 137, 144-145, 149-150, 154, 182-183

- limitation, 98, 144, 146, 162

- maneuvers, 117, 189

- see also specific joint or region*

- see also specific test*

flowcharts, SFMA, 134, 337-352

FMS

- analysis of results, 191-216

- and corrective exercise, 229, 238-264

- clearing tests, 100-102

- design, 79-88

- difference between the systems, 23-24, 59-63, 74-78

- filters, 81

- goals, 260

- history of, 28-29, 359

FMS, continued

- kit, 88, 90, 98, 102
- modifications, 105-106, 257-260
- overview, 61
- principles of, 310-313
- purpose of, 254
- razor, 66
- results hierarchy, 85, 212, 249, 264
- scoring criteria, 85, 372-384
- score sheet, 89
- screen descriptions, 90-103, 373-386
- screening, philosophy of, 79, 115
- team members, 357-358
- verbal instructions, 381-386
- when to screen, 69

foot

- and ankle pronation, *see eversion/inversion*
- alignment, 381
- mobility, 94
- position in the deep squat test, 197
- foot position, 79-80, 90, 94, 126-128, 197, 208, 213, 271
- footwear, 326

Foran, Bill, 29

forward bending

- dysfunction, 109
- corrective solutions for, 300-302
- evaluation hierarchy, 114, 121, 249
- SFMA flexion assessments, 126, 145-146

Freakonomics, book, 305

functional goniometer, 367-371

functionalmovement.com, 88

fundamental

- authentic movements, 44, 317
- extension pattern dysfunction, 150-152, 158, 162
- hip rotation stability, 165-166, 169-170, 172-173
- neuromuscular platform, 254
- righting reaction, 296
- segmental stabilization, 145
- spine rotational stability, 163-164
- stability, 269, 271, 274

G

Gambetta, Vern, 360

get-up, *see Turkish get-up*

Gladwell, Malcolm, 59

glenohumeral joint, 322, 327-328

- mobility, 96, 209-210
- stability, 152, 163

goblet squat, 233, 299

Godin, Seth, 239, 357

Gomes, Joe, 357-358

goniometric measurement(s), 63, 82, 111, 119, 133-135, 167-175, 367-371

Gorman, Paul, 357-358

Gray, Gary, 324, 360, 367, 369

grip strength, 220, 232, 326, 328

H

half-kneeling,

- chop and lift, 233, 254, 302
- dorsiflexion assessment, SFMA, 182-185
- in lunging, 282-284
- inconsistency in, 284-285

half-kneeling, continued

- narrow-base assessment, 175
- patterns, 285-286
- posture, 178, 199, 233, 252-254, 284-286, 291-293, 362
- self-limiting exercise, 233
- stability and corrections, 270, 273-276, 295
- symmetrical, 254

halos, 233

hamstrings, 36, 68, 98-99, 121, 146-149, 211-212

Hawkins, Jeff, 255

healthcare intake plan, 61

heart rate variability (HRV), 40, 265, 355

heavy elastic resistance, 359-360

heel walks, 136, 176

high-threshold strategies, 105-106, 134-135, 187, 202, 216, 249, 289

hip

- breakouts list, 136
- dysfunction, 144-154, 157-173, 164, 182-183
- flowchart, 343, 346-347
- hinge strategy, 119-122, 278, 302
- lunge pattern and, 283-286
- position and posture, 252-254
- shoulder pattern and, 275-279
- stability, 102, 119-120, 183, 185
- strength, 212, 369
- tightness, 27, 303

hip extension

- active straight-leg raise, 98-99, 211-212
- assessments, SFMA, 157-159
- compensation for, 320
- extension pattern and rationale, 149-152, 285
- flowcharts, 345-347
- lunge pattern and, 283-286
- reinforcing, 302
- screening, 83-84
- strength in, 215

hip flexion

- active leg raise, flexion problem, 211-212
- breakouts, 145-149
- compensation for, 320
- demonstration of, 183
- flowchart, 341
- hurdle step and, 201-205
- movement patterns and, 121
- rationale of breakouts, 144-145
- restriction of, 201-205

hip flexors

- back pain and, 365
- core and, 204
- squatting and, 298-300
- stability of in the inline lunge, 207-208, 283
- stability postures, 274-275, 300-301

hip mobility

- and aging, 212-213
- core stability and, 264-265
- hurdle step and, 92-93
- inline lunge and, 94-95
- limitation in, 84
- joint and tissue dysfunction, 151
- joint by joint concept, 319-329
- rolling and, 270-273
- straight-leg raise and, 98-99, 146-148
- see also, FABER and Modified Thomas tests*

hip rotation
breakouts, 168-172
flowchart, 346-347
internal versus external, 164-166
rationale of breakouts, 163-166
score sheet, 335

hip tests, *see specific test name*

Hodges, PW, 117

Honarbakhsh, Behnad, 357-358

HRV, *see heart rate variability*

Human Kinetics, 29

hurdle step

and single-leg stance, 201-206
corrective strategy example, 294, 325
description and images, 92-93
equipment needed, 88, 381
FMS corrective prioritization, 248
FMS scoring criteria, 374
FMS verbal instructions, 382
if dysfunctional, exercises to remove, 228
movement pattern, 92-93, 105
primary importance of, 79-80
video of, 200

hyper-protective core musculature response, 202

hypermobile spinal flexion, 146

hypocapnia, 353

see also, breathing, capnography

Hylton, Paul, 4

Hyman, Mark, 321

I

illustrations, list of, 395

imbalance(s)

causes of, 38, 48-50, 56
risk of injury and, 16
screening for, 67-69, 87-88
see also, asymmetry

impingement clearing tests, 86, 89, 125, 196

inconsistent movement problems, 285

Indian club swinging, 216, 233

Indianapolis Colts, 11-12, 44

inductive arguments, 31

inefficient core reactions, 206

inhale time, 266

injury

effect on movement, 68
buffer zone, 39
prediction, 18, 33, 58, 224, 261, 266

inline lunge,

analyzing the screen, 206-209
core stabilization in, 208
exercise, 121
movement pattern, 88, 94, 284-285
narrow, 329
pattern(s), 81, 94, 105, 121, 206-208, 284-285, 329, 361
problem, 284
test of the FMS, 94-95, 105-106, 200-201, 206-209, 375, 382

instep of the feet, 90, 128

internal rotation, *see specific joint*

instructional videos, 200

intentional redundancy, 81-86

interlocked fingers-behind-the-neck deep squat assessment, 182-183

instructions for the FMS, verbal, 379

inversion, 78, 136, 176, 180-181

see also, eversion

isolated measurement(s), 31, 64, 310

isolated muscle testing, 110, 264, 364

isolation approach, 193, 198, 205, 211

J

Janda, Dr. Vladimir, 69, 107, 202-207

John, Dan, 298

joint-by-joint concept, 320-330

joint

alignment, 35, 196-197, 208, 241, 258, 275
capsule(s), 169-170, 172
effusion, 47, 82
integrity, 39, 56, 64
mechanoreceptors, 46
mobilization, 243
overview, 38-39
stiffness, 38, 135
tracking, 208, 215

joint mobility

active straight-leg raise, 211-212
before stability, 212-213
JMD, Joint Mobility Dysfunction, 134
rotational, 163-166
shoulder reaching, 209-211
squatting and, 196-198
versus extension dysfunction, 149-152
versus motor control, upper extremity, 142
see also, specific joints

Jones, Brett, 327, 357-358

Jones, Rusty, 357-358

jump study, 359-366

K

Kendall-McCreary, Elizabeth, 63

Kendall, Florence Peterson, 63

Kersey, Pat, 357-358

kettlebell, 229, 247, 290, 298

get-up, 216, 233
tall-kneeling chops, 302
halos, get-ups to, 302
overhead, 233
self-limiting exercise, 233

keys to the screen, 88

knee

abduction, 301
extension, 25, 84
flexion, 84, 121, 153, 157, 159, 183
injuries, 324, 399
joint mobility, 183-186
knee pain, 53, 163, 119, 321, 326
stability, 185, 320, 324-325
valgus, 26, 54, 193, 279

kneeling

chop and lifts, 302
developmental pattern, 28-29, 199
postures, 252-254, 270
self-limiting exercise, 233
squat, lunge and, 282-285
transitional postures, 273-276
see also half-kneeling and narrow-base

Knox, Thomas, 357-358

L

lateral-chain tissue extensibility dysfunction, 151, 160
latissimus tension, 152
LEFS form, 119, 390
leg

- length discrepancy, 83
- raising transitional movement patterns, 81
- separation pattern problem, 294
- see also active or passive straight-leg raise*

Lehr, Mike, 357-358

Leonhardt, Keith, 364-369

level of conscious control, 39, 42, 48, 304

Levitt, Steven, 305

ligaments, 38-39, 44, 62, 247

Liggitt, Paul, 4

Liponis, Mark, 321

list of tests, 75-78

list of screens, 74

Livingston, Scott, 357-358

long-sitting toe touch, 144-146

loss of balance, 203-205, 227, 282-284, 367-372

loss of height, 128, 204, 210

lower-body extension breakouts

- breakout list, 136
- breakout descriptions, 156-160
- flowchart, 343
- rationale for, 149-152
- score sheet, 334

Lower Quarter Y Balance Test, 365-367

lumbar

- extension joint-mobility dysfunction, 156, 164
- locked position, 154-155, 162-164, 167
- lordosis, 152, 162
- multifidus activation, 117
- pelvic-hip stability dysfunction, 158
- pelvic mechanics, 321, 387

Lund, JP, 117

lunge, *see inline lunge*

M

Maddox, Wyle, 4

manageable mistake zone, 282-289, 314

Manning, Peyton, 44, 46

manual

- muscle testing, 63-64, 133, 175, 294
- passive mobility corrections, 266
- techniques, 112, 115-119, 131, 135, 243, 250, 259, 310

Maxey, Tim, 357-358

McDougall, Christopher, 231-232, 307

McLaughlin, Laurie, 353-354

medical pre-participation fitness examination, 71

medicine ball, 233, 277, 291, 299, 357

metabolic system, 112, 206, 225, 245, 257, 262-262, 307

mistakes on screening, 192-193

Mizuhara-Cheng, Courtney, 357-358

mobility

- compensations for lack of, 67-68
- corrective exercises, 28, 241, 243, 263-268
- goals, 106, 241, 267, 327
- of the hips, 128
- of the shoulders, 128
- rotational restriction, 163
- tests of, 80, 88, 96, 98, 106, 200, 202, 208-210, 212
- see also, joint mobility or specific joint*

modifications to the FMS, 105-106, 257-260

Modified Low Back Pain Disability Questionnaire, 118

Modified Thomas Test, 159-160

Montgomery, Stephanie, 357-358

movement dysfunction

- acquired, 48
- developmental, 47
- traumatic, 47

movement perception problem, 287-290

motor control dysfunction, *see stability or motor control dysfunction*

motor development

- see developmental movement milestones*

movement pattern

- asymmetrical, 83
- categories, 80
- corrections, 17, 27, 263-279, 304, 361
- degradation of, 245
- learning, 281-289
- limitations observed, 82-83
- overview, 18-21
- primitive vs higher level, 80
- retraining, 241-243, 249, 255-256, 264-268, 281-303, 388
- see also specific pattern*

movement preparation, 200, 245-248, 259, 272

movement screening overview, 61

multi-segmental extension, 126, 136

- breakouts, 152-163
- rationale, 149-152
- flowchart, 342-344
- score sheet, 333-334

multi-segmental flexion, 126, 136

- breakouts, 145-148
- rationale, 144
- flowchart, 341
- score sheet, 333-334

multi-segmental rotation, 126, 136

- breakouts, 166-174
- rationale, 163-166
- flowchart, 345-348
- score sheet, 335

muscle guarding, 38, 82, 130

muscle testing, 63-64, 133, 175, 294

muscle tone

- corrective exercise and, 245
- mobility and, 122, 266-267
- neurological, 359
- pain and, 237-238
- protective stiffness, 25-29, 240-241, 286-287, 365
- whole pattern training and, 198-199

Myers, Thomas, 39

N

Naked Warrior, book, 214, 285

narrow-base activity, *see half-kneeling*

neck, *see cervical*

neuromuscular network, 41-43

neutral pelvis, *see pelvis*

Norman, Darcy, 357-358

O

O'Connor, Jeff, 357-358

Occam's Razor, 66

occipitoatlantal (OA), 137-138
Olmsted-Kramer simplifying, 369
optimum performance pyramid functional movement, 223
order of the SFMA top-tier tests, 114
Oswestry update, 390
outer core, 55
outer edge of ability, 283, 302
over-breathing, *see breathing*
over-powered performance pyramid, 223
overhead deep squat (SFMA), 128-129, 150, 157, 196
 breakouts, 183-186
 flowchart, 351
 rationale, 182
 see also, deep squat, FMS
overhead reach with spine extension, 114
overview of the FMS, 32-33
overview of the Functional Movement Systems, 61

P

paddleboarding, 233
pain
 and motor control, 50, 117
 during screening, 81-84
 new theory of the cause, 320
 provocation 62, 122, 125, 129, 153, 253, 309
 provocation maneuver, 106, 145, 157, 161
Panjabi, MM, 68
paranoid and clueless system, 286-287
parasympathetic nervous system, 40, 46, 255, 334
partial squatting, 121, 198, 278, 387
passive assessments, *see specific assessment*
passive mobility, 137, 142, 150-152, 164-166, 266-267, 294
passive straight-leg raise (PSLR)
 SFMA description and image, 147-148
 see also active straight-leg raise
patellofemoral, 119, 398
patient intake, 116-119
pattern(s), 18-21
 -specific core stability, 206
 see movement patterns
pelvic, 41, 90, 92, 94, 98, 284
 control, 196
 floor, 96, 314
 girdle, 273
 movements, 188-189, 278
 positions, 114, 147, 276, 299
 tilt, 157, 177-178, 193, 211, 275, 286, 294
perceptive experience, 283, 285, 288
 dosage, 297, 312
Perform Better, 200
performance
 pyramid, 220-225, 244, 313
 standards, 23, 29, 48, 60, 65, 69-72, 223
peripheral nervous system, 118, 134
perpetual hip flexor activity, 299
phasic muscle behavior, 38, 46
Pilates, mat, 24, 233
pillow press exercise, 298
plantar flexion, *see ankle*
Plisky, Phil, 357-358, 367-372, 398-399
Plummer, Thom, 357-358
plyometrics, 105, 224, 358-359
PNF, *see proprioceptive neuromuscular facilitation*

Poirer, Chris, 357-358
Porterfield, James, 321
posterior chain tissue extensibility dysfunction (TED)
 147-149, 152, 162, 183, 186
posterior pelvic tilt, *see pelvis*
posterior rocking clearing test, 86, 89
postural stabilization requirements, 137-138, 142, 144, 149-151, 369
pre-participation medical examination, 69-72, 81
predictable levels of dysfunction, 320
press-up, *see prone press-up*
primitive movement patterns, 62, 81-83, 85, 200, 205, 212, 215-216
progressive static-to-dynamic stabilization exercises, 119
prone
 on-elbow assessment, 150, 155, 164, 168, 214
 press-up, 86, 89, 100, 119, 136, 149, 152, 154, 161, 377
 passive range-of-motion testing, 176
 rocking, 145-147, 154-155, 162
proprioceptive
 awareness, 36-41, 67, 200, 204, 227, 366
 dysfunction, 175-176, 182
proprioceptive neuromuscular facilitation (PNF)
 basis of, 26
 mobility corrections with, 265-266
 motor control and, 286-289
 RNT and, 296
 study of, 359-366
provocation of symptoms, 107, 116, 119, 122, 125, 156
PSLR, *see passive straight-leg raise*
pushup, 116, 200, 220, 233, 249, 260, 284, 298
 corrections, 212-215
 endurance, 71
 movement, 85-86, 88-89
 FMS scoring criteria, 378
 FMS description and images, 100-101
 FMS verbal instructions, 384
 position(s), 212-215, 364-365, 377, 383
 screening modifications, 105-106
pyramids, 220-225, 244, 313

Q

quad-dominant, 196
quadruped
 diagonal, unilateral, exercise in, 179, 214-216
 flowchart, 349
 posture, 252-253, 273
 transitional, 270, 274, 276-277
qualitative aspects of authentic breathing, 40
quantitative measurements, 21-22, 61, 65, 71, 118
Quebec Back Pain Disability Scale, 390

R

Ratey, John, 259
rationale, of SFMA breakouts
 cervical, 137
 multi-segmental extension, 149
 multi-segmental flexion, 144
 multi-segmental rotation, 163
 overhead deep squat, 182
 rolling patterns, 186
 single-leg stance, 175
 upper extremity, 142
Raynor, Jim, 357-358

- reach-back maneuver, 209
 - reaching, upper extremity screen, 96-97, 209-210
 - reactive neuromuscular training (RNT)
 - deep squat technique, 200
 - examples of, 275-279, 287-289, 294-296
 - jump study, 363-365
 - motor control and, 27
 - overview, 268
 - rolling and, 271
 - reciprocal
 - action of the extremities, 96, 208, 215-216, 298-299
 - arm action of an elite runner, 29, 357
 - inhibition, 266
 - pattern(s), 94, 142-144, 209, 298
 - reductionism, 18-19, 25, 193, 310
 - redundancy in testing, 83-84
 - regional interdependence, 17, 116, 135, 311
 - Renna, Anthony, 357-358
 - resistance bands, *see reactive neuromuscular training*
 - reverse patterning, 199-200, 292-296, 300
 - Richardson, C, 117
 - righting reaction, 297
 - RNT, *see reactive neuromuscular training*
 - rolling
 - analyzing screen results, 215-216
 - breakouts, 187-189
 - flowchart, 352
 - patterns, 45, 136, 150-152, 62-164, 167, 169-170, 176-178, 233, 255, 270-273
 - rationale, 186
 - Ross, Beth, 364-369
 - Rose, Greg, 135
 - flowcharts and score sheets from, 330-352
 - rotary
 - analyzing screen results, 215
 - patterns, 86-88, 102-103, 106, 153, 214, 326
 - stability, 102-103, 105, 213-215, 249, 378, 384
 - stability posterior rocking clearing test, 102
 - stability test(s), 102, 106, 200-201, 215, 272, 284-285, 379, 385
 - rotation, *see specific joint*
 - of the cervical spine, 141
 - of the upper thoracic region, 210
 - tissue extensibility dysfunction, 137, 141
 - Ruiz, Miguel, 313
 - running
 - and the single-leg stance, 205-206
 - efficiency, 220, 205
 - hurdles, 212
 - injuries, 231, 309
 - shoe development, 231, 309
- S**
- sacral angle, 144-146
 - sacroiliac joint, 151, 218, 327
 - Sahrmann, Shirley, 107, 321
 - specific adaptation to imposed demands, SAID, 44, 253
 - scapula,
 - dysfunction, 96, 152, 163
 - elevation, 123-124, 138-139, 298
 - joint-by-joint, 319-330
 - mobility, 210, 365
 - retraction, 162
 - stability, 100, 142, 144, 152, 209-210, 213, 218, 365
 - substitution, 210, 324
 - scope of practice, 24, 62, 218
 - score sheet, FMS, 89, 380
 - score sheets, SFMA, 330-336
 - scoring criteria, FMS, 41, 80-85, 100, 106, 373
 - screening, *see FMS*
 - screens list, FMS, 74
 - seated
 - hip rotation, 136, 166-171
 - tibial rotation, 136, 173-175
 - ankle eversion/inversion, 136, 176, 180-182
 - Secrets of Primitive Patterns*, 200
 - Selective Functional Movement Assessment, *see SFMA*
 - self-limiting activities, 230-233, 261, 278, 293, 303, 308, 314
 - sensory
 - challenge, 57, 304
 - input, 27, 42, 214, 240, 245, 257-258, 265-271, 280, 303-304, 308, 312-317
 - information, 38, 231, 265, 328
 - interaction, 78, 135, 175, 177, 326
 - motor memory, 269-271
 - motor system, 26, 29, 35, 42, 279, 292, 356, 361
 - sequence of
 - body segments, 272
 - motor control, 186
 - movement challenges, 47
 - stabilizers, 200
 - sequencing assistance, 267
 - sequencing of body segments, 272
 - sequencing problem, 298
- SFMA**
- breakouts listing with page numbers, 136
 - breakout descriptions, *see Chapter 8*
 - categories, 250
 - corrective prioritization, 249
 - corrective exercise strategies, 114, 242
 - criteria, 111-113
 - difference between the systems, 23-24, 59-63, 74-78
 - flowcharts, 135, 337-352
 - hierarchies, 114-115, 118-120, 256, 264
 - introduction to, 107-110
 - overview of, 62
 - purpose of, 73
 - rules of prioritization, 218
 - score sheets, 330-336
 - team members, 357-358
 - test list with page numbers, 136
 - top-tier tests, *see top-tier assessments*
 - see also, rationale of SFMA breakouts*
- Shiner, Jay, 357-358
- short-term response vs long-term adaptation, 225
- shoulder
- crossover maneuver, 125
 - flexion, 149-152, 182-183
 - tissue extensibility, 164
 - impingement clearing, 86
 - internal rotation, 154-155
 - stability, 142, 144, 210-290
 - tests of, 84, 376, 383
- shoulder mobility
- and age, 258-259
 - clearing test, 85-86, 96
 - corrective prioritization, 248-250
 - limitations of, 228
 - primitive function, 80
 - rolling and, 272

- shoulder reaching patterns, 96-97, 142-144
 - analyzing the screen results, 209-213
 - see also, upper extremity patterns*
 - shunt muscle, 35
 - single-arm pushup, 214, 233
 - single-joint functional movement assessments, 133
 - single-leg stance
 - analyzing the screen, 201-204
 - assessment, 127
 - balance, 110, 217
 - backward bend, 153
 - breakout rationale, 175
 - breakouts, 176-182
 - corrective strategy, 205
 - dysfunction, 175
 - exercises, 105, 214, 227, 233, 242, 278-279
 - flowchart, 350
 - forward bend, 76, 136, 144-146
 - single-leg stance, continued
 - hip extension assessment, 150
 - pattern(s), 121, 204-205, 250, 255, 295
 - SFMA tests, 127, 150, 157, 205
 - stability, 204, 251, 277-279, 295
 - sit-and-reach test, 213
 - situp, 71, 220
 - six Ps, 251-256
 - SMCD, *see stability or motor control dysfunction*
 - Smith, Steve, 357-358
 - soft core, 249
 - soft tissue dry needling, 266
 - soles of the feet, 98, 100, 104, 147, 231
 - somatosensory, 175, 177
 - Sottovia, Carla, 357-358
 - Spark*, book, 259
 - specific testing order, 367
 - spinal
 - assessment, 123, 149
 - dysfunction, 106, 144, 151
 - joint mobility, 145-148, 202
 - stability, 68, 84, 94, 117, 120-121, 150, 158, 212, 265
 - spinal extension
 - breakout(s), 153-156, 161, 182
 - clearing, 377, 383
 - flowchart, 342
 - stability, 150, 156
 - spinal flexion, 102, 121-123, 137-139, 144-146, 148, 297
 - clearing, 378, 384
 - spinal rotation, 164
 - split-pattern corrective exercise strategy, 80
 - spurt muscle, 35
 - squat-based movement pattern tests, 193
 - squat pattern, 81, 90, 105, 119, 191-201, 207, 228, 247-250, 262, 296, 329
 - breakout SFMA, 182
 - description instruction, 183
 - dysfunction, 249
 - evaluation, 387-389
 - flowchart SFMA, 351
 - mechanics, 121
 - pattern problems, 299-300
 - test, 197
 - see also, deep squat FMS & overhead squat SFMA*
 - stability
 - asymmetries, 65, 69, 202, 329
 - category, 241, 264-265
 - corrections, 267-270, 273-279
 - endurance, 288
 - stability, continued
 - exercises, drills, 37, 164, 206-207, 213, 241-243, 246-249, 251, 261, 265, 268, 271, 288-289
 - local vs global, 36-37
 - of the core, 100-102, 200
 - or motor control, 45, 134, 137-138, 142, 144-145, 148-152, 154, 156, 158, 160, 163-166, 173, 176, 179
 - sequence and timing, 48, 200, 208-209, 227
 - stabilizers vs movers, 37
 - testing, 88, 135, 200, 208, 223, 249, 284, 296, 364
 - stability or motor control dysfunction, (SMCD), 134-135, 137-138, 150
 - standing
 - cervical flexion assessment, 138
 - dorsiflexion assessment, 182
 - hip extension, 136, 150-152, 157
 - rotation, 122, 211
 - Star Excursion Balance Test, 367-372
 - static
 - postural assessment, 202-203
 - proprioceptive feedback, 37
 - stability, 83, 135, 204, 246, 269, 274-275, 277-278, 300, 312
 - straight-leg raise, 98-99, 144-148, 211-212, 377, 384
 - stress breathing, 28, 40, 266
 - Strock, Mike, 357-358
 - stretching
 - mobility and, 240, 265-267
 - movement patterns and, 196-199
 - muscle tone and tightness, 226, 301-303
 - see also, yoga*
 - supine
 - knee-to-chest assessment, 145, 147-149, 183-186
 - cervical extension, 76, 136, 138, 141
 - cervical extension assessment, 138
 - lat stretch, 136, 151-152, 161-162
 - upper extremity pattern, 142-144
 - symmetric
 - patterns, 90, 100, 194
 - postures, 252-253, 270
 - tests, 80, 84-85, 183-184
 - vs asymmetric, 113, 194-195
 - see also, asymmetric*
- ## T
- Talent Code, The*, book, 286, 314
 - tall-kneeling
 - bottom-up press, 233
 - chops, 214
 - see also, kneeling, half-kneeling, transitional postures*
 - Tambay, Nishin, 357-358
 - taping, 112, 119, 243, 321
 - TED, *see tissue extensibility dysfunction*
 - test kit, FMS, 88, 381
 - test lists, 74-78
 - thin slicing, 39
 - Thomas, Ed, 216, 259-261, 357-358
 - Thomas Tests, *see Modified Thomas*
 - thoracic
 - extension, 149-150, 182-183, 209
 - extension stability dysfunction, 150, 152, 156
 - mobility, 150, 210-211, 322
 - rotational mobility dysfunction, 163
 - rotational tissue extensibility, 164
 - rotational testing, 164
 - spine rotation, 211, 255
 - tissue extensibility dysfunction, 150-152, 164

tibia, 92-94, 121, 372, 381
 breakout(s), 170, 173
 external rotation, 174-175
 flowchart, 163, 172-173, 348
 rotation, 166, 173-175

tilt, pelvic, *see pelvis*

tissue extensibility dysfunction (TED)
 ankle, 176, 182-183
 cervical, 137-138
 examples and causes of, 134, 267
 hip, 151, 165-166, 183
 lumbar, 150
 posterior chain, lat, 152, 182-183
 rotational, 163-165
 shoulder girdle, 152
 thoracic, 149-150
 tibial, 166
 upper extremity, 142

tissue quality classifications, 108

toe-touch movement pattern, 114, 119, 121, 144-146, 199-, 200, 211, 302

toe walk assessment, 136, 176, 179-180

Tomczykowski, Alan, 357-358

tonic system, 38, 46, 120

top-tier assessment, SFMA
 breathing and, 261
 flowchart, 337-338
 list of, 75, 114
 pain and, 241
 score sheets, 330-331
 top-tier descriptions, 123-131

Torine, Jon, 11-12, 191, 357-358

traumatic movement dysfunction, 47

training partial patterns, 192

training stabilizers vs movers, 37

transitional postures, 81, 270-278, 284-289
 see also, half-kneeling, quadruped

trigger point, 122, 134

trunk-to-extremities development process, 67

trunk stability, 121, 364-365

trunk stability pushup test, 100-101, 212-214, 260, 378, 384
 analyzing the screen results, 213-214

Tsatsouline, Pavel, 214, 285, 300, 357-358

tubing drills, *see reactive neuromuscular training*

Turkish get-up, 216, 233

U

under-powered performance pyramid, 224

under-skilled performance pyramid, 224

unilateral extension/rotation, 152, 154, 156, 162-163

unilateral shoulder backward bend, 136, 151, 160-161

upper body extension
 breakouts, 160-162
 flowchart, 344

upper extremity
 flowchart, 340
 pain provocation, 125
 patterns, 124, 142-144
 rationale, 142
 SMCD, 142
 see also, shoulder reaching

Upper Quarter Y Balance Test, 367-372

V

valgus collapse, 26, 54, 278, 299-300, 325

Van Allen, Joe, 357-358, 398-399

Van Dieen, et al, 117, 396-397

verbal instructions for the FMS, 379

Verstegen, Mark, 357-358

vestibular
 assessment breakouts, 177-179
 flowchart, 349
 proprioception and, 38-43, 227, 269
 rationale for tests, 175

VO₂ max, 40, 225

Voight, Mike, 296, 357-358

W

Weingroff, Charlie, 357-358

Wright, Todd, 324

Y

Y Balance Test, 367-372

Yamamoto, K, 213, 399

Yocum's impingement test, 125

yoga, 40, 55, 57, 202, 213, 229-230, 233, 309

Z

Zedka, M, 117, 399