
Index

- Abduction pillow, 366
- Aberrant drug-taking behavior
assessment of, 424
characteristics of, 424–425
differential diagnosis for, 424
prevalence of, 424–425
specific risk factors for, 425
- Ablative neurosurgical procedures,
329–334
cordotomy, 331–332
complications from, 331–332
indications for, 331–332
techniques for, 331
- of DREZ, 330–331
complications from, 330–331
indications for, 330–331
techniques for, 330
- intracranial, 333–334
brainstem tractotomy, 333
cingulotomy, 333–334
hypophysectomy, 333
thalamotomy, 333
- myelotomy, 332–333
complications from, 332–333
indications for, 332–333
technique for, 332
- peripheral, 329–330
complications from, 329–330
in DRG, 329
indications for, 329–330
- Abstinence symptoms, 178
- Abuse of substances
definition of, 120, 424
OIN and, 244
prevalence of, in general populations,
423–425
- Aceclofenac, 259
- Acetaminophen
as aniline derivatives, 261–263
as antipyretic analgesic, 256
surgically-induced pain syndromes and,
148
- Acidosis, in bone cancer pain, 28–29
ASICs and, 29
TRPV1 and, 29
- Acid-sensing ion channels (ASICs), 29
- Acupuncture, in pain rehabilitation, 362
- Acute pain
after analgesic interventions, 57
from opioid therapy, 57
from subcutaneous injections, 57
with anticancer therapies, 54, 55
from cancer, 54–55
organ obstruction/perforation, 55
pathological fractures, 55
rupture of hepatocellular carcinoma,
54–55
with chemotherapy, 57–59
with infusion techniques, 57–58
from toxicity, 58–59
chronic v., 53
from diagnostic interventions, 54–56
lumbar puncture, headaches from, 56
needle biopsies, 56
after hormonal therapy, 59–60
in breast cancer, 60
in prostate cancer, 59–60
with immunotherapy, 60
from infections, 55
herpetic neuralgia, 55
OIH and, 57, 195
with radiotherapy, 60–61
acute plexopathy from, 60
enteritis from, 60
mucositis from, 60
from radiopharmaceuticals, 61
during spinal metastasis, 60
with therapeutic interventions, 54–57
chemical pleurodesis, 57
for CIN, 56–57
from postoperative procedures, 56
from vascular events, 55–56
acute thrombosis, 55–56
superior vena cava obstruction, 56
- Acute pain syndromes, 54–61
after analgesic interventions, 57
from cancer, 54–55
with chemotherapy, 57–59
from diagnostic interventions, 56
after hormonal therapy, 59–60
from infections, 55
from opioid therapy, 57
with radiotherapy, 60–61
with therapeutic interventions, 56–57
with vascular events, 55–56
- Addiction
definition of, 424
hospice care and, 539–540
to opioids, 177–178
- Adenosine, as nonopioid analgesic, 296
receptor system, 13
- Adenosine receptors, 480
- Adjustment disorders, assessment of,
120–121
- Adjuvant analgesics, 272–283
 α_2 -Adrenergic agonists, 279
anticonvulsant, 276, 277–279
antidepressants, 274, 275–276
SNRIs, 275–276
SSRIs, 275–276
tricyclic, 275
for bone pain, 281, 282
bisphosphonates, 281–282
calcitonin, 282
radionuclides, 282
for bowel obstruction, 282–283
cannabinoids, 281
classification of, 272–283
co-analgesic v., 272
corticosteroids, 273–274
definition of, 272
GABAergic drugs, 279
multipurpose, 273
for neuropathic pain, 274, 497–499
NMDA receptor agonists, 280–281
for noncardiogenic pulmonary edema,
238
pain assessment with, 114
- Adolescent Barriers Questionnaire, 95
- Adolescent Pediatric Pain Tool (APPT), 137
- Adrenal pain syndrome, 67
- α_2 -Adrenergic agonists, 279
- Advanced cancer, prevalence of pain in, 45
- Advance directives, 557–558
POLST documents, 557–558
- Affective assessment of pain, 105
- afferent fibers, in pain physiology, 3–4
- A β -fibers, 482

- Age. *See also* Children, pain in; Elderly, pain in
 palliative systemic antineoplastic therapy and, 402
 perception of pain and, 444–445
- Agitation, from opioid toxicity, 113
- Agonist-antagonist analgesics, 172
 buprenorphine, 172
 butorphanol, 172
 nalbuphine, 172
 pentazocine, 172
- Alcohol abuse
 among palliative care patients, 429
 as coping mechanism, 120
- Alfentanil, genetic variations of, 188
- Allodynia, opioid-induced, 240
- Alprazolam
 for depression, 472
 for neuropathic pain, 278
- Alternative/complementary medicine, in palliative care, 115
 acupuncture as, for rehabilitation, 362
 hypnosis as, for cancer pain, 347–348
 yoga as, for cancer pain, 348–349, 372
- Amantadine, for PMPS, 149
- Ambulatory aids, for pain rehabilitation, 366
- γ -Aminobutyric acid agonists, 294
 for neuropathic pain, 498–499
- Aminophenazone, 263
- Analgesic interventions, acute pain from, 57
 from opioid therapy, 57
 from subcutaneous injections, 57
- Analgesics. *See* Opioid analgesics
- Anesthesia use, surgically-induced pain syndromes and, 147–148
- Aniline derivatives, 261–263
 acetaminophen as, 261–263
- Animal models, 15–18
 of bone cancer pain, 24
 neuropathic component of, 26
 carrageenan-induced inflammation, 16
 osteoarthritis, 16
 for central pain, 17
 development of, 17–18
 of diabetic neuropathy, 17
 formalin-induced inflammation, 15–16
 of neuropathic pain, 16
 of partial denervation of hindpaw, 16–17
 CCI, 17
 PSTL, 17
 selective SNL, 17
- Antiandrogens, 60
 gynecomastia from, 71
 osteoporosis from, 71
- Anticancer therapies
 acute pain with, 54, 55
 common categories of, 407
 oral systemic agents, 407
- Anticonvulsant analgesics, 276, 277–279
 for neuropathic pain, 491
- Antidepressants
 adjuvant analgesics as, 274, 275–276
 heterocyclic, 470
 for neuropathic pain, 274, 493–495
 for pain management with depression, 466–467, 472
 SNRIs, 468
 SSRIs, 467–468
 SNRIs, 275–276, 494–495
 for depression, 468
 side effects of, 276
 SSRIs, 275–276, 494
 for depression, 468
 tricyclic, 275
 as adjuvant analgesics, 275
 for neuropathic pain, 275, 494
 for pain management with depression, 469–470
- Antiestrogens, 407
- Anti-inflammatory drugs, for neuropathic pain, 499
- Antineoplastic therapy, palliative, 399–415
- Antipsychotics, for depression, 472
- Antipyretic analgesics, 255–267
 acidic, 258–261
 NSAIDs, 259–261
 biodistribution impact on, 256
 for cancer pain, 257–258
 COX enzymes in, 255–256, 257
 COX-1 inhibitors, 255–256
 COX-2 inhibitors, 255–256, 264–267
 future developments for, 267
 hyperalgesia from, 256–257
 indications for, 258
 mode of action of, 255–256
 nonacidic, 261–264
 aniline derivatives, 261–263
 pyrazolinone derivatives, 263–264
 NSAIDs and, 255–256
 pharmacological data of, 260
 physicochemical data of, 260
- Anxiety disorders, assessment of, 120–121
- Anxiolytics, for depression, 472
- APPT. *See* Adolescent Pediatric Pain Tool
- Arachidonic acid, 5–6
 COX enzyme pathways in, 5–6
 lipoxygenase enzyme pathways in, 5
 NSAID's influence on conversion of, 5–6
- Argentina, palliative care in, 614–617
- β -Arrestin-2, 186
- Arthralgia, 59
 immunotherapy and, 60
- Arthritides, 359
- Artificial hydration and nutrition, 560–561
- ASICs. *See* Acid-sensing ion channels
- Aspirin, 261
- Assessment, of cancer pain, 53–54, 89–100
 adjuvant analgesics and, 114
 barriers to, 95–96
 for cancer stages, 110–112
 in cancer survivors, 156
 characteristics in, 94–95
 quality of, 95
 in response to prior treatment, 95
 spatial, 94
 temporal patterns, 94–95
 in children, 97, 130–142, 435
 behavioral factors in, 131–132
 through behaviors, 435
 clinical interviews for, 133–134, 135
 clinical practice recommendations in, 136–141
 cognitive factors in, 131
 developmental considerations in, 132–133
 emotional factors in, 132
 interviews for, 137
 pain scores in, 135–136
 psychometric considerations in, 135–136
 QOL and, 141
 quantitative pain scales in, 133–135
 questionnaires for, 135–136, 137
 through symbolic expression, 435
 validity considerations in, 135–136
 through verbal expression, 435
 coping in, 117–118
 in elderly, 98–100, 445–446
 in hospice care, 538–539
 inadequate, 89
 innovative trends in, 100
 with IVR, 100
 through medical evaluation, 90
 through neurological evaluation, 90
 opioid analgesic use and, 113, 114
 absorption routes for, 113
 dose calculations for, 114
 hyperalgesia from, 114
 myths and misconceptions about, 113
 tolerance levels in, 113–114
 toxicity from, 113
 of pain impact, 96–97
 concurrent symptoms and, 97
 with FACT, 96
 on mood, 96
 on QOL, 96
 on social support, 96–97
 physical function in, 115–116
 psychiatric disorders and, 119–121
 of adjustment, 120–121
 with anxiety, 120–121
 chemical coping and, 120
 depression, 120–121
 personality disorders, 121
 somatization, 119–120
 psychosocial distress in, 116–117, 119
 coping in, 117–118
 somatic symptoms in, 116
 spiritual distress and, 118–119
 suffering in, 117–118
 QOL of patients and, 89
 for quality assurance, 100
 severity in, 90–94
 intensity levels and, 91–94
 with questionnaires, 91
 scales of, 38, 90–91
 spiritual distress in, 118–119
 suffering in, 117–118
- Assessment tools, 108–110
- Atlantoaxial destruction, 62
- Autonomy, principle of, 553–554
- Axonal sprouting, nerve injury and, 7

- Baclofen, as nonopioid analgesic, 294
- Barriers Questionnaire, 95, 605
- Base-of-skull metastases, 64–65
 - clivus syndrome, 64
 - hypoglossal syndrome, 64
 - jugular foramen syndrome, 64
 - middle cranial fossa syndrome, 64
 - occipital condyle syndrome, 64
 - orbital syndrome, 64
 - parasellar syndrome, 64
 - sphenoid sinus syndrome, 64–65
- Beck-Depression Inventory, 96
- Behavioral assessment of pain, 105
- Behavioral pain scales, for children, 137–139
- Benevolence, principle of, 554
- Benzodiazepines
 - for depression, 472
 - for neuropathic pain, 499
 - for OIN, 243
- Benzopyrones, 152
- Biopsies. *See* Needle biopsies, acute pain from
- Bisphosphonates
 - as adjuvant analgesics, 281–282
 - for bone pain, 520–523
 - clinical effects of, 520
 - osteoclasts and, 28
 - for osteonecrosis of the jaw, 523
 - palliative radiotherapy with, 388–389
 - Blinding, for clinical trials, 571–572
 - single-blind, 572
 - Bone fractures, from palliative radiotherapy, 382
 - for bone metastases, 385–387
 - pathologic, 382, 387
 - risk prediction with, 385–386, 387
 - Bone marrow biopsies, 56
 - Bone metabolism modulators, 499
 - Bone metastases
 - clinical features of, 517–518
 - palliative radiotherapy for, 382–385, 388
 - complications of, 385–388
 - impending fractures with, 385–387
 - with neuropathic pain, 389–390
 - for pathological fractures, 382, 387
 - postoperative, 387–388
 - risk prediction with, 385–386, 387
 - pathophysiology of, 23–24, 515–517
 - extravasation and growth in, 515–516
 - marrow invasion in, 516
 - nociception in, 516–517
 - tumor cells in, 515
 - reirradiation of, 393–394
- Bone pain, 515–528. *See also* Skeletal pain, pain management for
 - acidosis in, 28–29
 - ASICs and, 29
 - TRPV1 and, 29
 - adjuvant analgesics for, 281, 282
 - bisphosphonates, 281–282
 - calcitonin, 282
 - radionuclides, 282
 - animal models of, 24
 - from chemotherapy toxicity, 59
 - CIBP, 15
 - clinical features of, 517–518
 - COX-1 inhibitors for, 5
 - COX-2 inhibitors for, 5–6
 - future research on, 528
 - incidence rates for, 23, 515
 - mechanisms of, 15
 - multifocal, 62
 - neuropathic component of, 26–28
 - in animal models, 26
 - DRG in, 26–28
 - treatment for, 28
 - pain syndromes with, 518
 - continuous pain, 518
 - incident pain, 518
 - mixed bone and neuropathic pain, 518
 - mixed bone and visceral pain, 518
 - pain transmission with, 24–25, 645
 - pathophysiology of, 23–24, 30, 515–517
 - for breakthrough pain, 23
 - extravasation and growth in, 515–516
 - marrow invasion in, 516
 - nociception in, 516–517
 - of osteoclasts, 28
 - tumor cells in, 515
 - of tumor growth, 24
 - for tumor metastases, 23–24
 - rehabilitation with, 526–527
 - skeletal remodeling in, 24–25, 28–29
 - of osteoclasts, 28
 - treatment of, 23, 518–519
 - bisphosphonates in, 520–523
 - calcitonin in, 523
 - chemotherapy in, 528
 - corticosteroids in, 520
 - hormonal therapy in, 528
 - kyphoplasty for, 527–528
 - NSAIDs in, 520
 - opioid analgesics in, 519, 520
 - with orthopedic surgery, 526–527
 - radioisotopes in, 524, 525–526
 - radiopharmaceuticals in, 525–526
 - radiotherapy in, 520–525
 - time to expected improvement after, 519
 - vertebroplasty in, 527–528
 - tumor-derived products in generation of, 29–30
 - endothelins, 29–30
 - kinins, 30
 - NGF, 30
 - WDR neurons in, 15
 - Bowel obstruction, adjuvant analgesics, 282–283
 - BPI. *See* Brief Pain Inventory
 - Brachial plexopathy, 69
 - after postradiation therapy, 72–73
 - Bradykinin, 6
 - Bradykinin receptors, 480
 - Brain metastases, palliative radiotherapy for, 390
 - reirradiation of, 394
 - WBRT and, 390
 - Brainstem tractotomy, 333
 - Breakthrough pain, 23, 506–512
 - assessment of, 507–508
 - categories of, 506, 507
 - characteristics of, 112–113, 506
 - classification of, 506–507
 - with predictable events, 507
 - definition of, 316–317
 - treatment of, 508–512
 - basal analgesia optimization in, 508–510
 - future developments in, 512
 - through intrathecal administration routes, 510
 - with noninvasive fast-delivery systems, 510–511
 - with nonopioid analgesics, 509–510, 511–512
 - opioid dosing issues with, 511
 - of pain flares, 510
 - underdiagnosing of, 512
 - Breast cancer
 - flare syndromes in, 60
 - hormonal therapy for, palliative, 411–412
 - lymphedema after, 151
 - Brief Pain Inventory (BPI), 91, 115, 404
 - Brown-Séquard syndrome, 152
 - Buccal administration route, for opioid analgesics, 173
 - Bupivacaine, 292–293
 - Buprenorphine (Subutex), 172
 - for elderly, 450
 - pharmacology of, 214–215
 - Bupropion, for neuropathic pain, 276
 - for depression, 469
 - Burning perineum syndrome, 74
 - from steroid therapy, 59
 - Butorphanol, 172
 - C7-T1 syndrome, 62
 - CAGE (cut down, annoy, guilt, eye opener) alcohol questionnaire, 244, 550
 - Calcitonin, for bone pain, 282, 523
 - CAM. *See* Confusion Assessment Method
 - Cancer
 - acute pain from, 54–55
 - organ obstruction/perforation, 55
 - pathological fractures, 55
 - rupture of hepatocellular carcinoma, 54–55
 - antipyretic analgesics for, 257–258
 - cognitive impairment and, 196
 - neuropathic pain from, 61
 - visceral pain syndromes and, 61
 - Cancer-induced bone pain (CIBP), 15. *See also* Bone pain
 - Cancer pain
 - in children, 434–435
 - palliative chemotherapy for, 434
 - in developing world, management of, 608–609
 - in elderly, 444–451
 - multidimensional concept of, 457
 - psychological factors for, 457–458
 - Cancer pain, neural blockade for, 315–326
 - classification of, 315–317

- Cancer pain, neural blockade for (*cont.*)
intensity of, 315
with intraspinal analgesia, 317–319
with epidural trial, 317–318
with permanent intrathecal therapy, 318–319
intra-spinal neurolysis in, 325
with nerve blocks, 319
with epidural steroid injections, 319
with neurolytic blocks, 319–325
of celiac plexus, 319–320
of ganglion impar, 324–325
intra-spinal, 325
summary for, 325
of superior hypogastric plexus, 323–324
pathophysiology of, 315–316
peripheral neurolysis in, 325
temporal aspects of, 316–317
- Cancer Pain Role Model Program, 100
- Cancer survivors
Internet sites for, 157, 158
interpretation of term, 145
pain syndromes in, 145–158
assessment of pain in, 156
CIPN, 153–154
osteoporosis as, 154–155
radiation-induced, 152–153
research on, 145
surgically-induced, 147–149, 150–152
treatment-related, 146–147
underreporting of, factors for, 156, 157
QOL for, 146
supportive care for, 156–157
- Cancer therapies, chronic pain syndromes
with, 61–74
after hormonal therapy, 71
postchemotherapy, 70–71
postradiation, 72–74
brachial plexopathy after, 72–73
burning perineum syndrome, 74
enteritis from, 73
lumbar plexopathy after, 73
lymphedema pain, 73–74
myelopathy after, 73
osteoradionecrosis, 74
proctitis, 73
postsurgical, 71–72
for frozen shoulder, 72
after mastectomy, 71
pelvic floor pain, 72
phantom pain,
post-radical neck dissection pain, 71
stump pain, 72
after thoracotomy, 71–72
- Cannabinoid(s)
as adjuvant analgesics, 281
for neuropathic pain, 500
receptors, 480
- Capsaicin, 500–501
- Capsulitis, 359–360
- Carrageenan-induced inflammation, 16
osteoarthritis, 16
- Carroll Depression Rating Scale (CDRS), 462
- Catecholamines, 185
- Catheter tip masses, after epidural opioid administration, 291
- Cauda equina, chronic pain from, 62–64
- CCI model. *See* Chronic constriction injury model
- CDP. *See* Complete decongestive physiotherapy
- CDRS. *See* Carroll Depression Rating Scale
- Celiac plexus block, 319–320
complications of, 320–321
efficacy of, 321–323
new perspectives of, 323
- Central neuropathic pain, 479
- Central pain models, 17
- Cervical intraepithelial neoplasia (CIN), 56–57
- Cervical plexopathy, 68
- Chemical coping, assessment of, 120
- Chemically dependent patients, 423–430
aberrant drug-taking behaviors for, 424–425
assessment of, 424
characteristics of, 424–425
differential diagnosis for, 424
prevalence of, 424–425
specific risk factors for, 425
clinical management of, 426–430
alcohol abuse during, 429
assessment in, 426–427
for inpatients, 428–429
for outpatients, 428
for patients in recovery, 429–430
for patients with advanced disease, 428
treatment planning in, 427
urine toxicology screening in, 427–428
definition of abuse and addiction for, 424
palliative care for, 425–426
patient selection for opioid therapy, 426
risk factors for, 425–426
prescription drug abuse among, 430
prevalence of, 423–425
- Chemical pleurodesis, 57
- Chemotherapy, 57–59
for bone pain, 528
chronic pain syndromes after, 70–71
bony complications of steroid therapy, 71
peripheral neuropathy, 70–71
Raynaud's syndrome, 71
CIPN and, 153–154
with infusion techniques, 57–58
in hepatic artery, 57
in immunotherapy, 58
intra-peritoneal, 58
intravenous, 57
intravesical, 58
neuropathic pain from, 485–487
palliative care for, 114–115
palliative radiotherapy with, 389
toxicity from, 58–59
acute limb ischemia from, 59
arthralgia from, 59
bone pain from, 59
5-Fluorouracil-induced angina from, 59
gynecomastia from, 59
headaches as result of, 58
mucositis from, 58
myalgia from, 59
palmar-planted erythrodysesthesia syndrome from, 59
perineal burning from, 59
peripheral neuropathy from, 58–59
- Chemotherapy-induced peripheral neuropathy (CIPN), 153–154
clinical reviews for, 154, 155
incidence rates for, 153–154
nonpharmacological/alternative therapies for, 154
treatment therapies for, 154
- Chest wall pain, 65
- Children, pain in, 433–441
from cancer, 434–435
neuropathic, 434
palliative chemotherapy for, 434
pelvic tumors, 434–435
diagnosis of pain in, 433–434
hydromorphone for, 441
management of pain in, 438–441
WHO pain ladder in, 438–439
measurement of pain in, 435–438
through color tool, 436
for QOL, 438
through VAS, 436
methadone for, 440–441
morphine for, 440
pain assessment in, 97, 130–142, 435
behavioral factors in, 131–132
through behaviors, 435
clinical interviews for, 133–134, 135
clinical practice recommendations in, 136–141
cognitive factors in, 131
developmental considerations in, 132–133
emotional factors in, 132
interviews for, 137
pain scores in, 135–136
psychometric considerations in, 135–136
QOL and, 141
quantitative pain scales in, 133–135
questionnaires for, 135–136, 137
through symbolic expression, 435
validity considerations in, 135–136
through verbal expression, 435
pharmacological pain management in, 439–441
dosage recommendations for, 440
nonopioid analgesics, 440–441
opioid analgesics, 440
physiology of pain in, 434
self-reporting by, of pain, 97, 139, 140–141
tramadol for, 441
- Children's Comprehensive Pain Questionnaire, 97, 137
- Chlorpromazine, for OIN, 243

- Chronic constriction injury (CCI) model, 17
- Chronic intestinal obstruction, 67
- Chronic pain syndromes, 61–74
- acute v., 53
 - from base-of-skull metastases, 64–65
 - in cancer survivors, treatment-related, 146–147
 - from cancer therapies, 61–74, 147
 - in chest wall, 65
 - ear pain, 65
 - from epidural spinal cord compression, 62–64
 - eye pain, 65
 - from hip metastases, 64
 - from multifocal bone pain, 62
 - in muscles, 65
 - from paraneoplastic syndromes, 65–66
 - from pelvic metastases, 64
 - in soft tissues, 65
 - tumor-related, 62, 66–70
 - vertebral, 62
- CIBP. *See* Cancer-induced bone pain
- CIN. *See* Cervical intraepithelial neoplasia
- Cingulotomy, 333–334
- CIPN. *See* Chemotherapy-induced peripheral neuropathy
- Cisplatin, neuropathic pain from, 485–486
- Clinical trials, 568–579
- analysis of, 574–576
 - clinically important differences in, 575
 - size of effect in, 574–575
 - statistical considerations in, 575–576
 - anatomy of, 568
 - blinding in, 571–572
 - double-blind, 572
 - single-blind, 572 - control groups for, 570
 - no-treatment, 571
 - with placebos, 570 - design issues for, 569
 - equivalence, 576–577
 - ethical issues in, 578–579
 - limitations of, 577–578
 - poor adherence to treatment as, 578
 - selective enrollment as, 577–578
 - underenrollment as, 577 - multiple measures evidence in, 576
 - noninferiority, 576–577
 - outcome measurement in, 573–574
 - for palliative systemic antineoplastic therapy, 408–410
 - participant selection in, 571
 - publication of, 577
 - questions in, 568–569
 - randomization and, 569–570
 - sample size in, 572
 - side effects evaluation in, 576
- Clivus syndrome, 64
- Clodronate, for bone pain, 499, 520–521
- Clonazepam, for neuropathic pain, 278
- Clonidine
- morphine v., 293–294
 - for neuropathic pain, 294
 - as nonopioid analgesic, 293–294
 - for OIN, 243
 - side effects of, 294
- Co-analgesics, adjuvant analgesics v., 272
- Codeine
- for mild to moderate pain, 197
 - pharmacogenetics of, 187
- Cognitive status
- in elderly, with cancer pain, 446–448
 - behavioral expressions of, 448
 - impairment of, from OIN, 238–240
 - pain assessment and, 105
 - palliative care and, 107
 - for delirium, 107
- Cold, superficial, in pain rehabilitation, 363–364
- Color Analogue Scale, 139
- Color tool, pain measurement through, 436
- Complementary/alternative medicine, in palliative care, 115
- acupuncture as, for rehabilitation, 362
 - hypnosis as, for cancer pain, 347–348
 - massage as, for rehabilitation, 361–362
 - yoga as, for cancer pain, 348–349, 372
- Complete decongestive physiotherapy (CDP), 360
- Complex regional pain syndrome (CRPS), 487–488
- Compression garments, 367
- Compression, in pain rehabilitation, 367–368
- Confusion Assessment Method (CAM), 446
- Constipation, opioid-induced, 176
- clinical presentations of, 234
 - in elderly, 450–451
 - management of, 233–235
 - with contact cathartics, 234
 - with laxatives, 234
 - with suppositories, 235 - side effects of, 233–235
 - precipitating factors for, 234
- Constipation, palliative care for, 108
- Contact cathartics, for opioid-induced constipation, 234
- Continuous infusion administration routes, for opioid analgesics, 173–174
- Continuous pain, in bone pain, 518
- Continuous subcutaneous infusion
- administration route, for opioids, 174
- Controlled Substances Act of 1970, 585–586, 587
- Coping, assessment of, 117–118
- chemical, 120
 - self-efficacy in, 118
- Coping skills training (CST), for cancer pain, 344–345
- Cordotomy, 331–332
- complications from, 331–332
 - indications for, 331–332
 - techniques for, 331
- Corticosteroids, 273–274
- adverse effects of, 273
 - for bone pain, 520
 - for neuropathic pain, 499
- COX-1 inhibitors
- in antipyretic analgesics, 255–256
 - for bone pain, 5
 - prostaglandins and, 29
- COX-2 inhibitors
- in antipyretic analgesics, 255–256, 264–267
 - for bone pain, 5–6
 - physiochemical and pharmacological data of, 265
 - prostaglandins and, 29
- COX enzymes. *See* Cyclooxygenase enzymes
- Cranial neuralgias, 68
- glossopharyngeal, 68
 - trigeminal, 68
- Criterion-based diagnostic systems, for assessment of depression, 461
- Cryotherapy, 363
- CST. *See* Coping skills training, for cancer pain
- Cyclooxygenase (COX) enzymes, 5–6
- in antipyretic analgesics, 255–256, 257
- Cytokines, in neuropathic pain, 482
- Data extraction, in epidemiology of cancer pain, 39
- DEGR. *See* Douleur Enfant Gustave-Roussy, for pain measurement
- Delirium
- assessment of, 107
 - hyperactive, treatment for, 243
 - from OIN, 240
 - opioid analgesics for, 107
 - subtypes of, 107
- Dependence, on opioids, 177–178
- physical, 177–178
 - psychological, 177
- Depression, with pain, 457–472
- alternative clinical correlates for, 459
 - assessment of, 120–121, 459, 460–463
 - criterion-based diagnostic systems for, 461
 - diagnostic interviews for, 461–462
 - research methods for, 461
 - self-report measures for, 462–463 - criteria for, 460
 - Endicott substitution criteria for, 461
 - with ESCC, 459
 - under hospice care, 549–551
 - inadequate pain management and, 464–465
 - major, differentiation from mood disorders, 459–460
 - management of, 465–472
 - antidepressants in, 466–467, 472
 - antipsychotics in, 472
 - with ECT, 460, 472
 - general principles of, 465
 - lithium carbonate in, 471–472
 - monamine oxidase inhibitors in, 471
 - pharmacological treatment in, 466
 - psychosocial treatment in, 465–466
 - psychostimulants in, 470–471 - prevalence of, 458–459
 - with advanced disease, 458–459

- Depression, with pain (*cont.*)
 psychological factors in pain experience and, 466
 secondary, 460
 suicide and, 464
- Detoxification dose, 178
- Developing world, palliative care in, 608–623
 accessibility of, 613
 cancer pain management and, 608–609
 community support for, 623
 current status of, 610–611
 development measures for, 611–612
 foreign funds for, 622
 historical development of, 610, 612
 in India, 617–622
 in Latin America, 614–617
 processes for, 612–613
 public health strategies for, 622–623
 technical assistance for, 622
- Dexamethasone
 for neuropathic pain, 273
 for pain flares, 382
- Dextroamphetamine
 for depression, 470
 for sedation management, 232
- Dextromethorphan (Delsym)
 as adjuvant analgesic, 280–281
 pharmacology of, 215–216
 for postamputation pain, 151
- Dextropropoxyphene, 199
- DFIs. *See* Disease-free intervals
- Diabetic neuropathy models, 17
- Diagnostic interventions, acute pain from, 56
 lumbar puncture, headaches from, 56
 needle biopsies, 56
- Diagnostic Interview Schedule (DIS), 461
- Diagnostic interviews, for assessment of depression, 461–462
- Diamorphine, 214
- Diclofenac, 259
- Dihydrocodeine, for mild to moderate pain, 197–198
- Dipyrrone, 263–264
- DIS. *See* Diagnostic Interview Schedule
- Disease-free intervals (DFIs), 402
- Distress. *See* Psychological distress;
 Psychosocial distress, assessment of;
 Spiritual distress, assessment of
- DNR orders. *See* Do-not-resuscitate orders
- Do-not-resuscitate (DNR) orders, 560
- Dorsal root entry zone (DREZ), 330–331
 complications from, 330–331
 indications for, 330–331
 techniques for, 330
- Dorsal root ganglia (DRG), 6–7
 in bone cancer pain, 26–28
 in peripheral ablative neurosurgical procedures, 329
- Double-blind clinical trials, 572
- Douleur Enfant Gustave-Roussy (DEGR), for pain measurement, 436–438
- DREZ. *See* Dorsal root entry zone
- DRG. *See* Dorsal root ganglia
- Drug use
 as coping mechanism, 120
 prevalence rates of, in general populations, 423–424
- Duloxetine, for neuropathic pain, 276
- Early disease, prevalence of pain in, 45
- Ear pain syndromes, 65
 primary otalgia, 65
 secondary otalgia, 65
- Eastern and Central European Task Force for Palliative Care (ECEPT), 610
- Eastern Cooperative Oncology Group (ECOG) scale, 115, 400–584
 performance assessment methods of, 315, 316
- EBRT. *See* External beam radiotherapy
- ECEPT. *See* Eastern and Central European Task Force for Palliative Care
- ECOG. *See* Eastern Cooperative Oncology Group scale
- ECS-CP. *See* Edmonton Classification Symptom for Cancer Pain
- ECT. *See* Electroconvulsive therapy
- Edmonton Classification Symptom for Cancer Pain (ECS-CP), 110, 112
- Edmonton Functional Assessment Tool (EFAT), 115
- Edmonton Injector, 548
- Edmonton Symptom Assessment System (ESAS), 38, 97, 109, 463
- EFAT. *See* Edmonton Functional Assessment Tool
- Elderly, pain in, 444–451
 assessment tools for, 445–446
 buprenorphine for, 450
 cancer and aging and, 444
 cognitive impairment in, 446–448
 behavioral expressions of, 448
 constipation in, 450–451
 fentanyl for, 450
 hydromorphone for, 449–450
 meperidine for, 449
 methadone for, 449
 morphine for, 449
 multidisciplinary evaluation of, 444
 neuropathic pain in, 450
 nonpharmacological management for, 451
 oxycodone for, 449
 oxymorphone for, 450
 pain assessment in, 98–100, 445–446
 pain management for, 448–451
 perception of pain and aging in, 444–445
 pharmacodynamics and, 445
 pharmacokinetics and, 445
 pharmacological management for, 448–451
 for neuropathic pain, 450
 with nonopioid analgesics, 448
 with opioid analgesics, 448–451
 side effects of, 450
 respiratory depression in, 451
 tramadol for, 449
 undertreatment of, 444
- Electroacupuncture, 362
- Electroconvulsive therapy (ECT), for depression, 460, 472
- Emotional suffering, during hospice care, 548–549
- Endicott substitution criteria, for depression, 461
- Endocrine system, opioids' influence on, 245–246
 after spinal administration, 291
- End-of-dose failure, 316
- End-of-life care
 depression and, 466
 emotional suffering during, 548–549
 in hospices, 539, 540–542
 medication diversion and, 541–542
- Endothelins, 29–30
- Energy conservation, in pain rehabilitation, 368
- Enteritis, radiation-induced, 60, 73, 153
- EORTC questionnaire. *See* European Organisation for Research and Treatment of Cancer QLQ-C30 questionnaire
- Epidemiology of cancer pain, 37–48
 assessment issues in, 37–39
 acute v. chronic, 38
 classification system in, 39
 within health care settings, 37–38
 severity scale as, 38
 in studies, 38
 definitions in, 37
 future challenges for, 47–48
 literature identification and, 39
 prevalence and, 39–42, 47
 in advanced cancer, 45
 at all stages, 45
 data extraction and, 39
 in early disease, 45
 for high-risk groups, 47
 inclusion/exclusion criteria and, 39
 by primary tumor site, 45, 46
 severity and, 45–47
 with terminal disease, 43–44
- Epidural administration routes
 delivery systems for, 299–303
 with catheters, 300–301
 complications from, 301
 with infusion pumps, 301
 mechanical issues with, 302–303
 for nerve blocks, 319
 for nonopioids, 293–296
 for opioids, 174, 288–291
 catheter tip masses as side effect of, 291
 efficacy of, 288–289
 noncardial peripheral edema as side effect, 291
 pharmacodynamics of, 288–289
 pharmacokinetics of, 288
- Epidural fibrosis, 302
- Epidural hematomas, from spinal delivery systems, 302

- Epidural spinal cord compression (ESCC),
62–64
depression with, 459
imaging of, 63
neuropathic pain and, 484
presentation of, 63
treatment for, 63–64
with radiotherapy, 63–64
with steroid therapy, 63
- Epworth Sleepiness Scale (ESS), 231
- Equivalence clinical trials, 576–577
- Equivalence trials, 576–577
- ESAS. *See* Edmonton Symptom Assessment System
- ESCC. *See* Epidural spinal cord compression
- ESS. *See* Epworth Sleepiness Scale
- Ethical issues, 553–563
access to palliative care, 562
artificial hydration and nutrition, 560–561
clinical decision making and, 555–558
advance directives and, 557–558
futility and, 555–556
goals of care in, 555
for incompetent patients, 557
informed consent and, 556–557
- DNR orders, 560
- ethical principles and, 553–555
- euthanasia and, 559, 561–562
- pain and suffering and, 558
euthanasia for, 559
terminal sedation for, 558–559
- physician-assisted suicide, 561–562
in research, 563
- SUPPORT and, 553
- ventilator withdrawal, 561
- withholding/withdrawing therapy, 559–560
- Ethnicity, pharmacogenetics of pain and, 188–189
- Etidronate, for bone pain, 499
- European Organisation for Research and Treatment of Cancer (EORTC) QLQ-C30 questionnaire, 38
- Euthanasia
physician-assisted-suicide as, 561–562
PST and, 559
- External beam radiotherapy (EBRT), 379
- Eye pain syndromes, 65
- Faces Pain Rating Scale, 141
- FACES Pain Scale, 141
- Faces Pain Scale, 100
- Facial Affective Scale, 141
- Facial scales, for pain in children, 141
- FACT. *See* Functional Assessment of Cancer Therapy
- Family caregivers, 597–605
adaptational tasks at different points in disease trajectory and, 601–602
breaking bad news to/for, 406
challenges of, by demographic group, 604–605
hospice care reports by, 544
intervention strategies for, 602–604
- palliative systemic antineoplastic therapy and, 405–406
- physical demands on, 600
- psychological well-being of, 600
- QOL for, 600, 601
- roles and responsibilities of, 598, 600
- FDA. *See* Food and Drug Administration
- Fentanyl, 171
for elderly, 450
FBTs, 214
genetic variations for, 188
OTFC, 213–214
pharmacology of, 212–214
spinal administration of, 290
transdermal administration for, 172–173
- Fentanyl buccal tablets (FBTs), 214
- Fentora (Cephalon), 173
- 5-Fluorouracil-induced angina, 59
- Flare syndromes
in breast cancer, 60
in prostate cancer, 59–60
- Fluoxetine, 468
- Food and Drug Administration (FDA), 408–409
- Formalin-induced inflammation, 15–16
- Frozen shoulder syndrome, 72
- FBTs. *See* Fentanyl buccal tablets
- Functional Assessment of Cancer Therapy (FACT), 96
- Futile treatment, 555–556
- GABAergic drugs, for neuropathic pain, 279
- Gabapentin
for neuropathic pain, 7–8, 276–278, 491
for PMPS, 149
for surgically-induced pain syndromes, 148
- GABA receptors, as inhibitory transmission system, 13
- Ganglion impar block, 324–325
complications of, 324
efficacy of, 324–325
- Glossopharyngeal neuralgia, 68
- Guided imagery
as psychological intervention for cancer pain, 348
with relaxation, in rehabilitation, 372
- Gynecomastia
from antiandrogen therapy, 71
from chemotherapy toxicity, 59
paraneoplastic, 66
- HADS. *See* Hospital Anxiety and Depression Scale
- Hallucinoses, from OIN, 240
- Haloperidol, for hyperactive delirium, 243
- Harrison Act of 1914, 585–586
- Headaches
in cancer survivors, 153
from chemotherapy toxicity, 58
chronic pain syndromes from, 65
from lumbar puncture, 56
SMART syndrome and, 153
- Health-related quality of life (HRQOL), 105
- Heat, superficial, in pain rehabilitation, 363–364
- Hepatic artery infusion pain, 57
- Hepatic distention syndrome, 66
- Hepatocellular cancer, acute pain from, 54–55
- Herpes zoster, neuropathic pain and, 489–490
PHN and, 489–490
- Herpetic neuralgia, acute pain from, 55
- Heterocyclic antidepressants, 470
- High-risk groups, for pain, 47
- Hip metastases, 64
- Hormonal therapy
acute pain from, 59–60
in breast cancer, 60
in prostate cancer, 59–60
for bone pain, 528
chronic pain with, 71
palliative, 411–413
for breast cancer, 411–412
for prostate cancer, 412–413
toxicity of, 409, 413
- Horner's syndrome, 69
- Hospice care, 535–551
addiction issues and, 539–540, 550
analgesic trials in, 544–545
barriers to referral for, 537–538
caregiver reports in, 544
case studies for, 537, 540
cognitive awareness in, 539
cultural and psychosocial issues and, 540
depression and, treatment for, 549–551
development of, 535–537
emotional suffering and, treatment of, 548–549
end-of-life issues with, 539
evaluation of pain in patients, 538–539
financial reimbursement for, 536–537
levels of care under, 536
medication administration for dying patients in, 540–542
medication administration routes in, 545–548
intramuscular, 545
intravenous, 545
rectal, 545
subcutaneous, 545, 546–548
medication diversion and, 541–542
nonverbal patient evaluation in, 542–544
overmedication in, 540
pain assessment in, 538–539
intensity scales for, 538
statistics for cancer patients in, 538
treatment barriers in, 539–540
- Hospital Anxiety and Depression Scale (HADS), 462
- HRQOL. *See* Health-related quality of life
- Hydrogen ions, inflammatory pain and, 6
- Hydromorphone, 170
for children, 441
for elderly, 449–450
oral administration of, 209–210

- Hydromorphone (*cont.*)
 pharmacology of, 209–210
 spinal administration of, 289
- Hydrotherapy, for pain rehabilitation, 364–365
- Hyoscine hydrobromide, for bowel obstruction pain, 283
- Hyperactive delirium, 243
- Hyperalgesia, opioid-induced, 114
 from antipyretic analgesics, 256–257
 from OIN, 240–241
 after spinal administration, 290–291
- Hypertonia, rehabilitation for, 360
- Hypertrophic pulmonary osteoarthropathy, 66
- Hypnosis, as psychological intervention for cancer pain, 347–348
- Hypoglossal syndrome, 64
- Hypogonadism, opioid-influenced, 245
- Hypophysectomy, 333
- Ibandronate, for bone pain, 281, 522
- IDDS. *See* Intrathecal drug delivery system
- Immune system
 opioids' influence on, 245
 PMNs in, 245
- Immunotherapy, acute pain with, 58, 60
 for arthralgia, 60
 with growth factors, 60
 for myalgia, 60
- Incident pain, 518
 characteristics of, 112
- Incompetent patients, clinical decision making for, 557
- India, palliative care in, 617–622
- Infections
 acute pain from, 55
 herpetic neuralgia, 55
 from spinal delivery systems, 301
- Inflammatory pain, 5–6
 arachidonic acid and, 5–6
 COX enzyme pathways in, 5–6
 lipoxigenase enzyme pathways in, 5
 NSAID's influence on conversion of, 5–6
- bradykinin and, 6
 carrageenan-induced, 16
 from osteoarthritis, 16
 hydrogen ions and, 6
 mast cells and, 6
 serotonin and, 6
 sumatriptan and, 6
- Informed consent, 556–557
- Interactive voice response (IVR), in pain assessment, 100
- Interleukins, 186
- Intracerebroventricular opioids, 291–292
- Intracranial ablative neurosurgical procedures, 333–334
 brainstem tractotomy, 333
 cingulotomy, 333–334
 hypophysectomy, 333
 thalamotomy, 333
- Intractable pain treatment, 590
- Intraperitoneal chemotherapy, acute pain from, 58
- Intraspinal analgesia, with cancer pain, 317–319
 with epidural trial, 317–318
 with neuropathic pain, 496–497
 with permanent intrathecal therapy, 318–319
- Intraspinal neurolysis, 325
- Intrathecal administration routes
 for breakthrough pain, 510
 concentration and dosage levels in, 298, 299, 300
 for neurosurgical procedures, 334–337
 complications from, 336–337
 for pain treatment, 334–337
 pump technique in, 335
 for opioids, 174
- Intrathecal drug delivery system (IDDS), 297
- Intravenous bolus administration routes, for opioid analgesics, 173–174
 in hospice care, 545
- Intravenous infusion pain, 57
- Intravesical chemotherapy, acute pain from, 58
- Ion channels, in neuropathic pain, 480–482
- Ionsys, for analgesics, 173
- IVR. *See* Interactive voice response, in pain assessment
- Jugular foramen syndrome, 64
- Justice, principle of, 554
- Karnofsky Performance Scale, 115
- Karnofsky Performance Status, 239, 400
- Ketamine
 as adjuvant analgesic, 280
 for neuropathic pain, 498
- Ketobemidone, 12
- Kinins, 30
- Kyphoplasty, for bone pain, 527–528
- Lamotrigine, for neuropathic pain, 278, 492
- Laxatives, for opioid-induced constipation, 234
 lubricant, 234
- Legal and regulatory issues, 583–592
 development of, 583–585
 federal laws and regulations, 585–592
 Controlled Substances Act, 585–586, 587
 Harrison Act, 585–586
 international drug control and, 585
 origins of opioid control, 585–586
 treatment programs under, 588
 state laws and regulations, 588–592
 double effect myth codification under, 591
 intractable pain treatment laws, 590
 liability of health care providers under, 591–592
 medical board guidelines under, 590–591
- medical education policies for pain and palliative care, 591
 for medical marijuana, 589
 for PMPs, 589–590
 for state pain commissions, 590
- Leptomeningeal metastases, 67–68
- Levetiracetam, for neuropathic pain, 279
- Levorphanol, 171
 pharmacology of, 215
- Liability, of health care providers, under state law, 591–592
- Lidocaine
 as adjuvant analgesic, 279–280
 for neuropathic pain, 500
- Ligamentous and tendinous injuries, rehabilitation for, 359–360
- Limb ischemia, from chemotherapy toxicity, 59
- Lipoxygenase enzymes, 5
- Lithium carbonate, 471–472
- Liver, palliative radiotherapy for, 391
- Local anesthetic agents, 292–293
 bupivacaine, 292–293
 for neuropathic pain, 495–496
 ropivacaine, 293
 toxicity of, 292
- Lubricant laxatives, for opioid-induced constipation, 234
- Lumbar puncture, headaches from, 56
- Lumbosacral plexopathy, 69–70
 after postradiation therapy, 73
 symptoms of, 69
- Lungs, palliative radiotherapy for, 390–391
- Lymphedema pain, 73–74
 rehabilitation for, 360
 with CDP, 360
- Malignant bone pain. *See* Bone pain
- Malignant painful plexopathy, 68–70
 cervical, 68
 lumbosacral, 69–70
 symptoms of, 69
- Malignant painful radiculopathy, 68
- Malignant perineal pain, 67
- Massage, in pain rehabilitation, 361–362
 with ice, 363–364
- Mast cells, 6
- Mastectomy, postsurgical pain after, 71
- M.D. Anderson Symptom Inventory (MDASI), 97
- MDASI. *See* M.D. Anderson Symptom Inventory
- Medical board guidelines, under state law, 590–591
- Medical education policies for pain and palliative care, under state law, 591
- Medical marijuana, state laws for, 589
- Meditation, in pain rehabilitation, 373
- Melanocortin, 185–186
- Memorial Delirium Assessment Scale, 241, 446
- Memorial Pain Assessment Card (MPAC), 91
- Memorial Symptom Assessment Scale (MSAS), 38, 109

- Meperidine (pethidine), 171–172
for elderly, 449
spinal administration for, 290
- Metastatic disease. *See also* Base-of-skull metastases
impact of prior therapy and, 401–402
DFIs and, 402
palliative systemic antineoplastic therapy and, 401, 402
- Methadone, 12, 170–171
for children, 440–441
for elderly, 449
equianalgesic potency of, with other opioids, 207–208
genetic variations of, 188
limitations of, 170–171
for neuropathic pain, 493
NMDA receptors in, 170
for OIN management, 242
oral, 205–209
pharmacokinetics of, 206–207
rectal administration of, 206
spinal administration for, 290
switching to, 208–209
- Methadone maintenance treatment program (MMTP), 493
- Methylnatrexone
for opioid-induced constipation, 235
for opioid-induced nausea and vomiting, 236
- Methylphenidate
for depression, 470
for sedation management, 232
- Mexiletine, as adjuvant analgesic, 279
- Midazolam
as nonopioid analgesic, 294
for OIN, 243
- Middle cranial fossa syndrome, 64
- Midline retroperitoneal syndrome, 66–67
pancreatic cancer and, 66–67
- Milnacipran, for neuropathic pain, 276
- Mind-body techniques, in pain rehabilitation, 372
- Mini Mental State Examination (MMSE), 107, 241, 446
- Mirtazapine, for neuropathic pain, 276
for depression, 469
- MMSE. *See* Mini Mental State Examination
- MMTP. *See* Methadone maintenance treatment program
- Modafinil, for depression, 471
- Monamine oxidase inhibitors, 471
RIMAs, 471
- Monoamine systems, in pain transmission, 13
- Monoclonal antibody therapy, 413–414
toxicities with, 414
- Mononeuropathy, tumor-related, 70
- Mood, assessment of, 96
- Mood disorders, differentiation from major depression, 459–460
- Morphine, 12–14
administration routes for, 203, 204
in children, 440
clonidine v., 293–294
dosing for, 201
for elderly, 449
genetic variations for, 187–188
for moderate to severe pain, 199–205
for OIN management, 241–242
oral, 199–202
oxycodone v., 202
pharmacokinetics of, 168
pharmacology of, 168–172
rectal administration of, 202–203, 204
side effects of, 200
spinal actions of, 12
spinal administration of, 202–203, 289
subcutaneous administration of, 202–203
- MPAC. *See* Memorial Pain Assessment Card
- MPI. *See* Multidimensional Pain Inventory
- MSAS. *See* Memorial Symptom Assessment Scale
- Mucositis, 58
epidemiology of, 58
grading systems for, 58
pathophysiology of, 58
from radiotherapy, 60
- Multidimensional Pain Inventory (MPI), 97
- Multifocal bone pain, 62
- Multifocal myoclonus, opioid-induced, 177
- Multimodal pain therapy, 147
- Muscles, chronic pain in, 65
- Music, in pain rehabilitation, 372
- Myalgia, 59
immunotherapy and, 60
- Myelopathy, postradiation pain from, 73
- Myelotomy, 332–333
complications from, 332–333
indications for, 332–333
technique for, 332
- Myoclonus, from OIN, 240
- Nalbuphine, 172
- Naloxone
for OIN, 243
for opioid-induced constipation, 235
for opioid-induced respiratory depression, 237
- National Comprehensive Cancer Network (NCCN), 154–155
- Nausea and vomiting, opioid-induced, 176, 235–236
management of, 236
after spinal administration, 290
- NCCN. *See* National Comprehensive Cancer Network
- Needle biopsies, acute pain from, 56
bone marrow, 56
for prostate, 56
- Neostigmine, as nonopioid analgesic, 296
- Nerve blocks, for cancer pain, 319
with epidural steroid injections, 319
- Nerve damage
Brown-Séquard syndrome, 152
NMDA receptor activation and, 8–10
opioid effectiveness after, 13
from radiotherapy, 152–153
- Nerve growth factor (NGF), 30
- Nerve injury. *See* Neuropathic pain
- Neural blockade, for cancer pain, 315–326
classification of, 315–317
intensity of, 315
with intraspinal analgesia, 317–319
with nerve blocks, 319
with neurolytic blocks, 319–325
pathophysiology of, 315–316
peripheral neurolysis in, 325
temporal aspects of, 316–317
- Neuraxial analgesia, 287–303
with combinations of agents, 297–298
with IDDS, 297
with intracerebroventricular opioids, 291–292
with local anesthetic agents, 292–293
toxicity of, 292
with nonspinal opioids, 293–296
 γ -Aminobutyric acid agonists, 294
NMDA agonists as, 294–295
spinal administration of, 293–296
spinal delivery systems for, 299–303
with catheters, 300–301
complications from, 301
with infusion pumps, 301
mechanical issues with, 302–303
with spinal opioids, 288–291
efficacy of, 288–289
pharmacodynamics of, 288–289
side effects of, 290–291
- Neuroleptics, for neuropathic pain, 500
- Neurolytic blocks, for cancer pain, 319–325
of celiac plexus, 319–320
complications of, 320–321
efficacy of, 321–323
new perspectives of, 323
of ganglion impar, 324–325
complications of, 324
efficacy of, 324–325
neurolysis summary for, 325
of superior hypogastric plexus, 323–324
complications of, 323
efficacy of, 323–324
for visceral pain, 319
- Neuropathic pain, 6–7, 54, 478–501
adjuvant analgesics for, 274, 497–499
animal models of, 16
antidepressants for, 274, 493–495
axonal sprouting with, 7
in bone pain, 518
from cancer, 61
central, 479
characteristics of, 112
from chemotherapy, 485–487
toxicity from, 58–59
in children, 434
CIPN and, 153–154
classification of, 478–479
clinical overview of, 479
CRPS and, 487–488
definition of, 479
development of, 6–7
diagnosis of, 482–483
DRG and, 6–7

- Neuropathic pain (*cont.*)
 in elderly, 450
 herpes zoster and, 489–490
 PHN and, 489–490
 malignant plexopathy and, 484
 management of, 490–501
 with adjuvant analgesics, 274, 497–499
 with anticonvulsants, 491
 with antidepressants, 274, 493–495
 with anti-inflammatory drugs, 499
 with bone metabolism modulators, 499
 with cannabinoids, 500
 with intraspinal therapy, 496–497
 with local anesthetics, 495–496
 with neuroleptics, 500
 with nonopioids, 294, 497–499
 with opioids, 12–13, 492–493
 with rehabilitation, 358
 with topical analgesics, 500–501
 neohumoral changes secondary to neural injury and, 482
 cytokines in, 482
 ion channel upregulation in, 482
 neurotrophic factors in, 482
 pathologic changes in cell bodies in, 482
 sensory neuron signaling in, 482
 neurosurgical procedures and, 329
 nociceptive sensory information for, 8
 nonopioids for, 294, 497–499
 opioids for, 12–13, 492–493
 palliative radiotherapy for, with bone metastases, 389–390
 paraneoplastic syndromes and, 488
 pathophysiology of, 479–482
 ion channels, 480–482
 receptors in, 480
 peripheral, 479
 disease-related, 484
 phantom pain and, 488–489
 physical examination for, 482–483
 post-cerebral infarct pain and, 489
 postmastectomy pain syndrome and, 484
 postradiation plexopathy and, 484
 QOL and, 483–484
 from radiotherapy, 152–153
 secondary syndromes with, 485
 somatosensory abnormalities with, 483
 spinal cord compression and, 484
 from spinal delivery systems, 302
 treatment-induced, 146–147
 tricyclic antidepressants for, 275
 tumor-related syndromes, 67–70
 cranial neuralgias, 68
 leptomeningeal metastases, 67–68
 malignant painful plexopathy, 68–70
 malignant painful radiculopathy, 68
 mononeuropathy, 70
 paraneoplastic painful peripheral neuropathy, 70
 paraneoplastic sensory neuropathy, 70
 venlafaxine for, 276
 Neurosurgical procedures, 329–337
 ablative, 329–334
 cordotomy, 331–332
 of DREZ, 330–331
 intracranial, 333–334
 myelotomy, 332–333
 peripheral, 329–330
 intrathecal drug delivery with, 334–337
 complications from, 336–337
 for pain treatment, 334–337
 pump technique in, 335
 neuropathic pain and, 329
 nociceptive pain and, 329
 NGF. *See* Nerve growth factor
 NMDA agonists, as nonopioid agonists, 294–295
 NMDA receptors
 activation of, nerve damage and, 8–10
 as adjuvant analgesics, 280–281
 functional modulation of, 8–9
 in methadone, 170
 OIN and, 240–241
 in opioid analgesics, 114
 structure of, 8
 Nociception, 3–18
 in bone metastases, 516–517
 mechanisms of pain and, 3–4
 Nociceptive pain, 54, 61
 neurosurgical procedures and, 329
 Nociceptive-specific (NS) neurons, 4
 Noncardiogenic peripheral edema,
 opioid-induced, from epidural, 291
 Noncardiogenic pulmonary edema,
 opioid-induced, 238
 management of, 238
 with adjuvant analgesics, 238
 Noninferiority clinical trials, 576–577
 Nonmaleficence, principle of, 554
 Nonopioid analgesics. *See also* Antipyretic analgesics
 γ -Aminobutyric acid agonists, 294
 for breakthrough pain, 509–510, 511–512
 for elderly, 448
 for neuropathic pain, 294, 497–499
 NMDA agonists as, 294–295
 spinal administration of, 293–296
 Nonopioid signaling systems, 185–186
 catecholamines in, 185
 interleukins in, 186
 melanocortin in, 185–186
 Nonsteroidal anti-inflammatory drugs (NSAIDs)
 antipyretic analgesics and, 255–256
 arachidonic acid conversion and, 5–6
 aspirin as, 261
 for bone pain, 520
 COX-1 inhibitors and, 5
 COX-2 inhibitors and, 5–6
 with high potency and long elimination half-life, 261
 with high potency and short elimination half-life, 259
 with intermediate potency and intermediate elimination half-life, 259–261
 with low potency and short elimination half-life, 259
 sedation from, 231
 No-treatment-controlled trials, 571
 NRS. *See* Numerical rating scales
 NSAIDs. *See* Nonsteroidal anti-inflammatory drugs
 NS neurons. *See* Nociceptive-specific neurons
 Numerical rating scales (NRS), 91, 139
 Occipital condyle syndrome, 64
 Octreotide, for bowel obstruction pain, 283
 Odontoid fractures, 62
 OIH. *See* Opioid-induced hyperalgesia
 OIN. *See* Opioid-induced neurotoxicity
 OPG. *See* Osteoprotegerin
 Opioid analgesics, 169–170
 acute pain from, 57
 OIH and, 57, 195
 addiction to, 177–178
 adjuvant analgesics with, 114
 α_2 -Adrenergic agonists, 279
 anticonvulsant, 276–279
 antidepressants, 274–276
 for bone pain, 281–282
 for bowel obstruction, 282–283
 for cancer-related neuropathic pain, 274
 cannabinoids, 281
 classification of, 272–283
 co-analgesic v., 272
 corticosteroids, 273–274
 definition of, 272
 GABAergic drugs, 279
 multipurpose, 273
 NMDA receptor agonists, 280–281
 for noncardiogenic pulmonary edema, 238
 pain assessment with, 114
 administration routes for, 172–175
 buccal, 173
 changing of, 174–175
 continuous infusion, 173–174
 continuous subcutaneous infusion, 174
 epidural, 174
 intramuscular, 173
 intrathecal, 174
 intravenous bolus, 173–174
 oral, 172, 195
 patient-controlled, 173–174
 rectal, 174
 transdermal, 172–173
 transmucosal, 173
 adverse effects of, 175–177
 constipation as, 176
 multifocal myoclonus as, 177
 nausea as, 176
 OIH as, 177
 respiratory depression, 175–176
 sedation as, 176
 tolerance development as, 177
 urinary retention as, 176–177
 vomiting as, 176
 agonist-antagonist analgesics, 172
 buprenorphine, 172
 butorphanol, 172

- nalbuphine, 172
 pentazocine, 172
 for bone pain, 519, 520
 cancer pain assessment with, 113, 114
 absorption routes for, 113
 dose calculations for, 114
 hyperalgesia from, 114
 myths and misconceptions about, 113
 tolerance levels in, 113–114
 toxicity from, 113
 central inhibitory systems and, influence on, 10–14
 for children, 439–440, 441
 classification of, 167–168
 cloning of, 10–12
 coadministration of, 215–216
 codeine, 197
 for delirium, 107
 dependence on, 177–178
 physical, 177–178
 psychological, 177
 drug combinations with, for enhancement of, 175
 for elderly, 448–451
 tolerance levels for, 448–449
 federal laws and regulations for, 585–586
 hypogonadism from, 245
 individualized dosage for, 167
 isolation of, 10–12
 for mild to moderate pain, 196–199
 for moderate to severe pain, 199–205
 morphine-like agonists, 168–172
 fentanyl, 171
 hydromorphone, 170
 levorphanol, 171
 meperidine, 171–172
 methadone, 12, 170–171
 oxycodone, 171
 oxymorphone, 171
 pharmacokinetics of, 168
 pharmacology of, 168–172
 after nerve damage, 13
 for neuropathic pain, 12–13, 492–493
 NMDA receptors and, 114
 opioid receptors and, 167–168
 pharmacokinetics of, 172
 pharmacology of, 195–218
 intraindividual variability with, 195
 plasma half-life values for, 171
 receptor subtypes, 10–11, 12
 adenosine receptor system, 13
 GABA, 13
 monoamine systems, 13
 response to intraindividual variation with, 195
 schedule for, 175
 sexual dysfunction from, 245
 side effects of, 230, 246
 constipation as, 233–235
 on endocrine system, 245–246
 on immune system, 245
 nausea and vomiting as, 235–236
 noncardiogenic pulmonary edema as, 238
 OIN as, 238–245
 pruritus as, 237
 respiratory depression as, 236–237
 sedation as, 230–233
 urinary retention as, 237–238
 at supraspinal sites, 13
 switching of, in treatment therapies, 196, 210, 216–217
 Opioid-induced hyperalgesia (OIH), 57, 177, 195
 pharmacogenetics and, 186
 Opioid-induced neurotoxicity (OIN), 238–245
 cognitive failure from, 238–240
 delirium from, 240
 hallucinoses from, 240
 hyperalgesia from, 240–241
 management of, 241, 243, 244–245
 with circadian modulation, 242
 with dose reduction, 242
 with hydration, 242–243
 with opioid rotation, 241–242
 myoclonus from, 240
 NMDA receptors and, 240–241
 prevention of, 243–244, 245
 of dose escalation, 243
 of psychological distress, 243–244
 of substance abuse, 244
 risk factors for, 238
 sedation and, 238
 seizures from, 240
 tolerance levels influenced by, 240–241
 Opioid metabolism, in pharmacogenetics, 182–183
 Opioid receptors, 10–12
 adenosine, 13
 GABA, 13
 monoamine systems, 13
 opioid analgesics and, 167–168
 pharmacogenetics for, 183–184
 Opioid signaling systems, 186
 β -Arrestin-2, 186
 STAT6, 186
 Opioid transport, pharmacogenetics for, 184–185
 Oral administration route, for opioid analgesics, 172, 195
 for hydromorphone, 209–210
 for oxycodone, 210–211
 Oral methadone, 205–209
 Oral morphine, 199–202
 adverse effects of, 200
 Oral transmucosal fentanyl citrate (OTFC), 213–214
 Orbital syndrome, 64
 Organ obstruction or perforation, acute pain from, 55
 Orthopedic surgery, for bone pain, 526–527
 Orthoses, for pain rehabilitation, 365–366
 Osteoblasts, 25–26
 Osteoclasts, 28
 bisphosphonates and, 28
 OPG and, 28–29
 Osteonecrosis of the jaw, 523
 Osteoporosis, 154–155
 from antiandrogen therapy, 71
 pain management for, 357–358
 Osteoprotegerin (OPG), 28–29
 Osteoradionecrosis, 74
 Otalgia. *See* Primary otalgia; Secondary otalgia
 OTFC. *See* Oral transmucosal fentanyl citrate
 Oucher Scale, 141
 Outcome measurement, for clinical trials, 573–574
 Oxaliplatin, neuropathic pain from, 485, 486–487
 Oxcarbazepine, for neuropathic pain, 278
 Oxycodone (OxyContin), 171
 administration studies with, 211
 for elderly, 449
 genetic variations for, 188
 morphine v., 202
 oral administration of, 210–211
 pharmacology of, 210–212
 Oxymorphone, 171
 for elderly, 450
 pharmacology of, 215
 Oxytrex, 216
 Paclitaxel
 for CIPN, 154
 neuropathic pain from, 486
 Pain, 3–4. *See also* Cancer pain, neural blockade for; Inflammatory pain; Neuropathic pain; Opioid analgesics
 anatomy and physiology of, 3–4
 afferent fibers in, 3–4
 spinal neurons in, 4
 animal models of, 15–18
 for carrageenan-induced inflammation, 16
 for central pain, 17
 development of, 17–18
 of diabetic neuropathy, 17
 for formalin-induced inflammation, 15–16
 of neuropathic pain, 16
 of partial denervation of hindpaw, 16–17
 bone cancer and, mechanisms of, 15
 CIBP, 15
 mechanisms of, 15
 WDR neurons in, 15
 central inhibitory systems of, 10–12
 opioids' influence on, 10–14
 central mechanisms of, 7–8
 definition of, 37
 dimensions of, 105
 excitatory transmission of, 8–10
 NMDA receptors in, 8–10
 as experience, steps in, 105
 inflammatory, 5–6
 arachidonic acid and, 5–6
 bradykinin and, 6
 hydrogen ions and, 6
 mast cells and, 6
 serotonin and, 6
 sumatriptan and, 6

- Pain (*cont.*)
- intrathecal drug delivery for, during neurosurgical procedures, 334–337
 - multidimensional concept of, 457
 - neuropathic, 6–7
 - axonal sprouting with, 7
 - development of, 6–7
 - DRG and, 6–7
 - gabapentin for, 7–8
 - nociceptive sensory information for, 8
 - opioids for, 12–13
 - pregabalin for, 7–8
 - peripheral mechanisms of, 4–7
 - events in, 4–5
 - pharmacogenetic considerations for, 180–189, 190
 - pharmacology of transmission of, 4–15
 - psychological factors for, 457–458
 - psychological interventions for, 341–352
 - challenges of, 343–344
 - with CST, 344–345
 - with guided imagery, 348
 - with hypnosis, 347–348
 - partner-assisted, 345–347
 - skills rehearsal for, 351
 - supervision and treatment monitoring in, 350
 - therapist training for, 349–350
 - treatment fidelity in, 350
 - with yoga, 348–349
 - respiratory depression and, 237
 - visceral mechanisms of, 14–15
 - serotonins and, 15
 - symptoms in, 15
 - transmission of, 14
- Pain and suffering, of patients, 558
- Pain assessment, 53–54, 89–100
 - barriers to, 95–96
 - for cancer stages, 110–112
 - in cancer survivors, 156
 - characteristics in, 94–95
 - quality of, 95
 - in response to prior treatment, 95
 - spatial, 94
 - temporal patterns, 94–95
 - in children, 97, 130–142, 435
 - behavioral factors in, 131–132
 - through behaviors, 435
 - clinical interviews for, 133–134, 135
 - clinical practice recommendations in, 136–141
 - cognitive factors in, 131
 - developmental considerations in, 132–133
 - emotional factors in, 132
 - interviews for, 137
 - pain scores in, 135–136
 - psychometric considerations in, 135–136
 - QOL and, 141
 - quantitative pain scales in, 133–135
 - questionnaires for, 135–136, 137
 - through symbolic expression, 435
 - validity considerations in, 135–136
 - through verbal expression, 435
 - copied in, 117–118
 - in elderly, 98–100, 445–446
 - in hospice care, 538–539
 - inadequate, 89
 - innovative trends in, 100
 - with IVR, 100
 - through medical evaluation, 90
 - through neurological evaluation, 90
 - opioid analgesic use and, 113, 114
 - absorption routes for, 113
 - dose calculations for, 114
 - hyperalgesia from, 114
 - myths and misconceptions about, 113
 - tolerance levels in, 113–114
 - toxicity from, 113
 - of pain impact, 96–97
 - concurrent symptoms and, 97
 - with FACT, 96
 - on mood, 96
 - on QOL, 96
 - on social support, 96–97
 - physical function in, 115–116
 - psychiatric disorders and, 119–121
 - in adjustment, 120–121
 - of adjustment, 120–121
 - with anxiety, 120–121
 - chemical coping and, 120
 - depression, 120–121
 - personality disorders, 121
 - somatization, 119–120
 - psychosocial distress in, 116–117, 119
 - somatic symptoms in, 116
 - spiritual distress and, 118–119
 - suffering in, 117–118
 - QOL of patients and, 89
 - for quality assurance, 100
 - severity in, 90–94
 - intensity levels and, 91–94
 - with questionnaires, 91
 - scales of, 38, 90–91
 - spiritual distress in, 117, 118–119
 - suffering in, 117–118- Pain flares, 382
 - breakthrough pain and, 510
 - dexamethasone for, 382
- Pain impact, assessment of, 96–97
 - concurrent symptoms and, 97
 - with FACT, 96
 - on mood, 96
 - on QOL, 96
 - on social support, 96–97
- Pain management
 - barriers to, 95–96
 - prior, response to, 95
 - rehabilitation and, 357
 - from muscular imbalance, 359
 - of neuropathic pain, 358
 - from shortened muscles, 359
 - of skeletal pain, 357–358
 - of soft tissue, 358
 - with TENS, 357
 - of trigger points, 358–359
- Pain mechanisms
 - in bone cancer, 15
 - of breakthrough pain, 112–113
 - of incident pain, 112
 - of neuropathic pain, 112
 - nociception and, 3–4
 - of visceral pain, 14–15
- Pain questionnaires, 91
 - for children, 135–136, 137
- Pain scores, in children, 135–136
 - behavioral, 137–139
 - self-report scales and, 139–141
 - facial scales, 141
 - NRS, 139
 - under VAS, 135
- Pain severity
 - assessment of cancer pain and, 90–94
 - intensity levels and, 91–94
 - treatment guidelines as result of, 94
 - from questionnaires, 91
 - Adolescent Barriers Questionnaire, 95
 - Barriers Questionnaire, 95
 - BPI, 91, 115, 404
 - MPAC, 91
 - SF-MPQ, 91
 - scales of, with cancer, 38
 - NRS, 91
 - VAS, 90–91
 - VDS, 90
- Pain syndromes, 53–74
 - acute, 54–61
 - after analgesic interventions, 57
 - from cancer, 54–55
 - with chemotherapy, 57–59
 - from diagnostic interventions, 56
 - after hormonal therapy, 59–60
 - from infections, 55
 - with radiotherapy, 60–61
 - with therapeutic interventions, 56–57
 - with vascular events, 55–56
 - with bone pain, 518
 - continuous pain, 518
 - incident pain, 518
 - mixed bone and neuropathic pain, 518
 - mixed bone and visceral pain, 518
 - in cancer survivors, 145–158
 - assessment of pain in, 156
 - CIPN, 153–154
 - osteoporosis as, 154–155
 - radiation-induced, 152–153
 - research on, 145
 - surgically-induced, 147–152
 - treatment-related, 146–147
 - chronic, 61–74
 - from base-of-skull metastases, 64–65
 - from cancer therapies, 61–74, 147
 - in chest wall, 65
 - ear pain, 65
 - from epidural spinal cord compression, 62–64
 - eye pain, 65
 - from headache syndromes, 65
 - from hip metastases, 64
 - in muscles, 65
 - from paraneoplastic syndromes, 65–66

- from pelvic metastases, 64
 in soft tissues, 65
 tumor-related, 62, 66–70
 vertebral bone pain, 62
 management issues with, 53
 prevalence of, 53
- Pain transmission**
 acute v. chronic, 53
 assessment of, 53–54
 with bone cancer, 24–25, 645
 through sensory neurons, 24
 chronic, acute v., 53
 classification of, 53–54
 acute v. chronic, 53
 neuropathic, 54
 nociceptive, 54, 61
 syndromic, 54
- Palliative care, for pain, 105–121**
 access to, as ethical issue, 562
 activity level in, 115–116
 for chemically dependent patients, 425–426
 patient selection for opioid therapy, 426
 risk factors for, 425–426
 with chemotherapy, 114–115
 cognitive status and, 107
 for delirium, 107
 with complementary therapies, 115
 for constipation, 108
 in developing world, 608–623
 goal of, 107
 in hospices, 535–551
 addiction and, 539–540
 analgesic trials in, 544–545
 barriers to referral for, 537–538
 caregiver reports in, 544
 case studies for, 537, 540
 cognitive awareness in, 539
 cultural and psychosocial issues and, 540
 depression and, treatment for, 549–551
 development of, 535–537
 emotional suffering and, treatment of, 548–549
 evaluation of pain in patients, 538–539
 financial reimbursement for, 536–537
 levels of care under, 536
 medication administration for dying patients in, 540–542
 medication administration routes in, 545–548
 medication diversion and, 541–542
 nonverbal patient evaluation in, 542–544
 overmedication in, 540
 pain assessment in, 538–539
 statistics for cancer patients in, 538
 treatment barriers in, 539–540
- pain characteristics and, 112–113**
 for breakthrough pain, 112–113
 for incident pain, 112
 for neuropathic pain, 112
 physical function in, 115–116
 predictors of difficulty in, 110–112
 for psychosocial distress, 116–119
- for QOL, 105–107
 with radiotherapy, 114–115
 with somatization, 119–120
 symptom assessment tools in, 108–110
 Palliative Care Outcome Scale, 38
 Palliative chemotherapy, for children, 434
 Palliative Performance Scale (PPS), 115
 Palliative radiotherapy, 379–394
 with bisphosphonates, 388–389
 for bone metastases, 382–385, 388
 complications of, 385–388
 impending fractures with, 385–387
 with neuropathic pain, 389–390
 for pathological fractures, 382, 387
 postoperative, 387–388
 risk prediction with, 385–386, 387
 with chemotherapy, 389
 clinical considerations for, 379, 380–381
 with EBRT, 379
 for neuropathic pain, 389–390
 principles of, 379–381
 with radiopharmaceuticals, 388
 reirradiation and, 389, 392–394
 of bone metastases, 393–394
 of brain metastases, 394
 clinical indications for, 392–393
 rules for, 381
 side effects of, 381–382
 bone fractures as, 382
 hematologic, 381–382
 pain flares as, 382
 with surgery, 386, 388
 PVP, 388
 toxicity with, 384
 visceral pain and, 390–392
 for brain metastases, 390
 general, 390
 for liver, 391
 for lungs, 390–391
 for pelvic masses, 391–392
 for recurrent masses, 391–392
 for skin, 392
- Palliative sedation therapy (PST), 559**
 as euthanasia, 559
- Palliative systemic antineoplastic therapy, 399–415**
 age and, 402
 basic principles of, 406–408
 clinical trials of, 408–410
 determination of palliation as goal and, 399–400
 duration of, for responding patient, 410–411
 future of, 415
 goals of, 403–404
 hormonal therapy as, 411–413
 for breast cancer, 411–412
 for prostate cancer, 412–413
 toxicity of, 409, 413
 impact of prior therapy and, 401–402
 DFIs and, 402
 monoclonal antibody therapy as, 413–414
 toxicities with, 414
 patient evaluation for, 408
- patient preferences and, 405–406
 performance status as predictor of prognosis and outcome and, 400–401, 404, 405
 with ECOG scale, 400
 under Karnofsky Performance Status scale, 239, 400
 response categories for, 399, 400
 small molecule inhibitors and, 414–415
 for stable or progressive disease, 411
 symptom assessment for, 404–405
 variation in response among metastatic disease sites and, 401, 402
- Palmar-planted erythrodysesthesia syndrome, 59**
- Pamidronate, for bone pain, 281, 521**
- Pancreatic cancer, 66–67**
- Paracetamol, pharmacological and physiochemical data of, 262**
- Paraneoplastic painful peripheral neuropathy, 70**
- Paraneoplastic sensory neuropathy, 70**
- Paraneoplastic syndromes, 65–66**
 gynecomastia from, 66
 hypertrophic pulmonary osteoarthropathy, 66
 neuropathic pain and, 488
 pemphigus, 66
 Raynaud's syndrome, 66
- Parasellar syndrome, 64**
- Partial denervation of hindpaw, models of, 16–17**
- Partial sciatic tight ligation (PSTL) model, 17**
- Partner-assisted psychological interventions, for cancer pain, 345–347**
- Pathological fractures, acute pain from, 55**
- Patient-controlled administration routes, for opioid analgesics, 173–174**
- Patient-controlled analgesia (PCA), for neural blockade, 315**
- PCA. *See* Patient-controlled analgesia**
- Pediatric Quality of Life Inventory-Cancer Module, 141**
- Pelvic floor pain, 72**
- Pelvic masses, palliative radiotherapy for, 391–392**
- Pelvic metastases, 64**
 in children, 434–435
- Pemoline, for depression, 470**
- Pemphigus, 66**
- Pentazocine, 172**
- Percutaneous vertebroplasty (PVP), 388**
- Peripheral ablative neurosurgical procedures, 329–330**
 complications from, 329–330
 in DRG, 329
 indications for, 329–330
- Peripheral neurolysis, 325**
- Peripheral neuropathy, 479**
 acute pain from, 58–59
 after chemotherapy, 70–71
 disease-related, 484
- Peritoneal carcinomatosis, 67**

- Permanent intrathecal therapy, 318–319
- Personality disorders, assessment of, 121
- Phantom pain, 72
of limbs, after amputation, 72
neuropathic pain and, 488–489
- Pharmacodynamics, in elderly, changes in, 445
- Pharmacogenetics, for pain, 180–189, 190
adverse effects of, 186–187
for alfentanil, 188
for codeine, 187
for fentanyl, 188
for methadone, 188
for morphine, 187–188
OIH and, 186
opioid metabolism and, 182–183
opioid receptors and, 183–184
for opioid transport, 184–185
for oxycodone, 188
pain sensitivity in, variations of, 182
research considerations for, 188–189
ethnicity as, 188–189
population samples in, 189
statistics as, 189
signaling systems in, 185–186
nonopioid, 185–186
opioid, 186
SNPs in, 180–181
splice variants in, 181–182
tolerance levels and, 186
for tramadol, 187
variability of pain perception and, 180
- Pharmacokinetics
in elderly, changes in, 445
of methadone, 206–207
of morphine, 168
of opioid analgesics, 172
- Phenazone, 256, 263
- PHN. *See* Postherpetic neuralgia
- Physical dependence, on opioids, 177–178
- Physical function, in pain assessment, 115–116
- Physician-assisted suicide, 561–562
- Physician Orders for Life-Sustaining Treatment (POLST) documents, 557–558
- Pilates, for pain rehabilitation, 372
- Placebo-controlled trials, 570
- Plexopathy
malignant, 484
postradiation, 484
radiation-induced, 60
- PMNs. *See* Polymorphonuclear leukocytes
- PMPS. *See* Postmastectomy pain syndrome
- PMPs. *See* Prescription monitoring programs, state laws for
- POLST. *See* Physician Orders for Life-Sustaining Treatment documents
- Polymorphonuclear leukocytes (PMNs), 245
- Postamputation pain, 151
- Post-cerebral infarct pain, 489
- Postherpetic neuralgia (PHN), 489–490
- Postmastectomy pain syndrome (PMPS), 71, 148–149
neuropathic pain and, 484
preventive strategies for, 149
risk factors for, 148–149
- Post-neck dissection pain, 150–151
- Postoperative pain, 56
- Postradiation plexopathy, neuropathic pain and, 484
- Post-radical neck dissection pain, 71
- Post-therapy lymphedema, 151–152
after breast cancer, 151
- Post-thoracotomy syndrome, 149
- PPS. *See* Palliative Performance Scale
- Prayer, in pain rehabilitation, 373
- Pregabalin
for neuropathic pain, 7–8, 276–278, 491–492
for surgically-induced pain syndromes, 148
- Prescription drug abuse, 430
- Prescription monitoring programs (PMPs), state laws for, 589–590
- Primary Care Evaluation of Mental Disorders (PRIME-MD), 462
- Primary otalgia, 65
- Primary tumor sites, prevalence of pain at, 45, 46
- PRIME-MD. *See* Primary Care Evaluation of Mental Disorders
- Proctitis, 73, 153
- Prophylactic palliation, 404
- Prostaglandins, 29
COX-1 inhibitors and, 29
COX-2 inhibitors and, 29
- Prostate biopsies, 56
- Prostate cancer
flare syndromes in, 59–60
hormonal therapy for, palliative, 412–413
- Proteinase-activated receptor-2, 480
- Pruritus, opioid-induced, 237
management of, 237
after spinal administration, 290
- PST. *See* Palliative sedation therapy
- PSTL model. *See* Partial sciatic tight ligation model
- Psychiatric disorders, assessment of, 119–121
in adjustment, 120–121
with anxiety, 120–121
chemical coping and, 120
depression, 120–121
personality disorders, 121
somatization, 119–120
- Psychological dependence, on opioids, 177
- Psychological distress, 117, 120
from OIN, 243–244
- Psychological interventions, with cancer pain, 341–352
challenges of cancer pain, 343–344
with CST, 344–345
with guided imagery, 348
with hypnosis, 347–348
partner-assisted, 345–347
skills rehearsal for, 351
supervision and treatment monitoring in, 350
therapist training for, 349–350
treatment fidelity in, 350
with yoga, 348–349
- Psychosocial distress, assessment of, 116–117, 119
coping in, 117–118
somatic symptoms in, 116
spiritual distress and, 118–119
suffering in, 117–118
- Psychostimulants
for pain management with depression, 470–471
for sedation management, 232
- Purine receptors, 480
- PVP. *See* Percutaneous vertebroplasty
- Pyrazolinone derivatives, 263–264
- Qi manipulation, 362
- QOL. *See* Quality of life, for patients
- Quality of life (QOL), for patients, 89
for cancer survivors, 146
for children, 141, 438
for family caregivers, 600, 601
HRQOL and, 105
with neuropathic pain, 483–484
pain impact on, 96
palliative care for, 105–107
- Quantitative pain scales, 133–135
- Radioisotopes, for bone pain, 524, 525–526
- Radionuclides, for bone pain, 282
- Radiopharmaceuticals, 61
with palliative radiotherapy, 388
- Radiopharmaceuticals, for bone pain, 525–526
- Radiotherapy
acute pain with, 60–61
acute plexopathy from, 60
enteritis from, 60, 73, 153
mucositis from, 60
from radiopharmaceuticals, 61
during spinal metastasis, 60
for bone pain, 524–525
clinical trials in, 520
clinical considerations with, 379–381
for epidural spinal cord compression, 63–64
neuropathy from, 152–153
pain syndromes in cancer survivors from, 152–153
from chronic headaches, 153
from chronic proctitis, 153
from nerve damage, 152–153
palliative, 379–394
with bisphosphonates, 388–389
for bone metastases, 382–385, 388
with chemotherapy, 389
clinical considerations for, 379, 380, 381
with EBRT, 379
for neuropathic pain, 389–390
principles of, 379–381
with radiopharmaceuticals, 388

- reirradiation and, 389, 392–394
 rules for, 381
 side effects of, 381–382
 with surgery, 388
 toxicity with, 384
 visceral pain and, 390–392
 palliative care with, 114–115
- Randomized control trials (RCTs), 568. *See also* Clinical trials
- Rapid switching, to methadone, 208–209
- Raynaud's syndrome, 66, 71
- Rectal administration routes, for opioids, 174
 in hospice care, 545
 for methadone, 206
 of morphine, 202–203, 204
 of tramadol, 199
- Reflex sympathetic dystrophy (RSD), 487
- Rehabilitation, 354–373
 ambulatory aids for, 366
 with bone pain, 526–527
 for capsulitis, 359–360
 compression in, 367–368
 energy conservation as part of, 368
 for hypertension, 360
 for ligamentous and tendinous injuries, 359–360
 for lymphedema, 360
 with CDP, 360
 manual interventions in, 360–363
 with acupuncture, 362
 massage as, 361–362
 with stretching, 360–361
 with touch, 362–363
 of trigger points, 360
 meditation and prayer in, 373
 mind-body techniques in, 372
 modalities for, 363–365
 superficial cold as, 363–364
 superficial heat as, 363–364
 ultrasound as, 364
 water-based therapy as, 364–365
 music in, 372
 with orthoses, 365–366
 pain management and, 357
 from muscular imbalance, 359
 of neuropathic pain, 358
 from shortened muscles, 359
 of skeletal pain, 357–358
 of soft tissue, 358
 of trigger points, 358–359
 philosophy of, 354–356
 self-maintenance as goal in, 356
 relaxation with imagery in, 372
 for somatic dysfunction, 359
 for spasticity, 360
 with TENS, 357, 365
 therapeutic exercises for, 368–370
 Pilates as, 372
 Tai chi as, 370–372
 yoga as, 372
- Reirradiation, 389, 392–394
 of bone metastases, 393–394
 of brain metastases, 394
 clinical indications for, 392–393
- Respiratory depression, opioid-induced,
 175–176, 236–237
 in elderly, 451
 management of, 237
 pain as agonist with, 237
 from spinal administration, 290
- Reversible inhibitors of monamine oxidase-A (RIMAs), 471
- RIMAs. *See* Reversible inhibitors of monamine oxidase-A
- Rituximab, palliative, 413–414
- Romania, palliative care in, 611–613
- Ropivacaine, 293
- Sacral syndrome, 62
- SADS. *See* Schedule for Affective Disorders and Schizophrenia
- Schedule for Affective Disorders and Schizophrenia (SADS), 461–462
- Schedule for Evaluation of Individual Quality of Life (SEIQoL), 110
- SCID. *See* Structured Clinical Interview for DSM-IV
- SDS. *See* Symptom Distress Scale
- Secondary depression, 460
- Secondary otalgia, 65
- Sedation, opioid-induced, 176
 from NSAIDs, 231
 OIN and, 238
 as side effect, 230–233
 cholinergic pathways and, 232–233
 management of, 231–233
 psychostimulants for, 232
- SEIQoL. *See* Schedule for Evaluation of Individual Quality of Life
- Seizures, from OIN, 240
- Selective enrollment, in clinical trials, 577–578
- Selective norepinephrine reuptake inhibitors (SNRIs), 275–276
 for neuropathic pain, 494–495
 for pain management with depression, 468
 side effects of, 276
- Selective serotonin reuptake inhibitors (SSRIs), 275–276
 for neuropathic pain, 494
 for pain management with depression, 467–468
- Selective SNL model, 17
- Self-efficacy, in coping, 118
- Self-report measures, for assessment of depression, 462–463
- Self-report pain scales, for children, 97, 139, 140–141
 facial scales, 141
 NRS, 139
- Serotonin
 inflammatory pain and, 6
 visceral pain and, 15
- Severe pain, prevalence of, 45–47
- Sexual dysfunction, opioid-induced, 245
- SF-MPQ. *See* short form-McGill Pain Questionnaire
- short form-McGill Pain Questionnaire (SF-MPQ), 91
- Side effects, opioid-induced. *See* Constipation, opioid-induced; Nausea and vomiting, opioid-induced; Noncardiogenic pulmonary edema, opioid-induced; Opioid-induced neurotoxicity; Pruritus, opioid-induced; Respiratory depression, opioid-induced; Urinary retention, opioid-induced
- Single-blind clinical trials, 572
- Single nucleotide polymorphisms (SNPs), 180–181
- Skeletal pain, pain management for, 357–358
 for osteoporosis, 357–358
 skeletal remodeling, 24–25
- Skin
 damage to, from vesicants, 409
 palliative radiotherapy for, 392
- Slow switching, to methadone, 208
- SMART syndrome, 153
- SNPs. *See* Single nucleotide polymorphisms
- SNRIs. *See* Selective norepinephrine reuptake inhibitors
- Social support, assessment of, 96–97
- Sodium channel blockers, for neuropathic pain, 279–280
- Soft tissues, chronic pain in, 65
 management of, with rehabilitation, 358
- Somatic dysfunction, rehabilitation for, 359
- Somatic pain
 paraneoplastic syndromes as cause of, 65–66
 psychosocial distress and, 116
- Somatization, assessment of, 119–120
 components of, 119
 ethnocultural influences on, 119–120
- Somatostatin, as nonopioid analgesic, 296
- Spasticity, rehabilitation for, 360
- Sphenoid sinus syndrome, 64–65
- Spinal administration routes
 delivery systems for, 299–303
 with catheters, 300–301
 complications from, 301
 with infusion pumps, 301
 mechanical issues with, 302–303
 for nonopioids, 293–296
 for opioids, 288–291
 efficacy of, 288–289
 pharmacodynamics of, 288–289
 pharmacokinetics of, 288
 side effects of, 290–291
- Spinal local anesthetic agents, 292–293
 toxicity of, 292
- Spinal metastasis, acute pain with, 60
- Spinal neurons, 4
 NS, 4
 WDR, 4
- Spiritual distress, assessment of, 117, 118–119
- SSRIs. *See* Selective serotonin reuptake inhibitors
- Stanford Sleepiness Scale, 231

- STAT6, in opioid signaling system, 186
- State pain commissions, state laws for, 590
- State-Trait Anxiety Inventory, 96
- Steroid therapy
bony complications of, 71
for epidural spinal cord compression, 63
perineal burning from, 59
- Stretching, in pain rehabilitation, 360–361
- Structured Clinical Interview for *DSM-IV* (SCID), 461
- Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT), 406, 535.
See also Hospice care
ethical issues and, 553
- Stump pain, 72. *See also* Postamputation pain
- Subcutaneous injections
acute pain from, 57
in hospice care, 545, 546–548
- Substance abuse. *See* Abuse of substances
- Sufentanil, spinal administration for, 290
- Suffering, assessment of, 117–118
- Sumatriptan, 6
- Superficial cold, in pain rehabilitation, 363–364
- Superficial heat, in pain rehabilitation, 363–364
- Superior hypogastric plexus block, 323–324
complications of, 323
efficacy of, 323–324
- Superior vena cava obstruction, acute pain with, 56
- SUPPORT. *See* Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments
- Supportive care, for cancer survivors, 156–157
- Support Team Assessment Schedule, 38
- Suppositories, for opioid-induced constipation, 235
- Surgically-induced pain syndromes, 147–149, 150–152
acetaminophen and, 148
anesthesia use and, 147–148
gabapentins for, 148
multimodal pain therapy for, 147
PMPS, 148–149
postamputation pain, 151
post-neck dissection pain, 150–151
post-therapy lymphedema, 151–152
post-thoracotomy syndrome, 149
pregabalin for, 148
- Switching, to methadone, 208–209
rapid, 208–209
slow, 208
- Symptom Distress Scale (SDS), 109
- Syndromic classification, of pain, 54
- T2-L1 syndrome, 62
- Tai chi, for pain rehabilitation, 370–372
- TARGET. *See* Therapeutic Arthritis Research and Gastrointestinal Event Trial
- TENS. *See* Transcutaneous electrical nerve stimulation
- Terminal disease, prevalence of pain with, 43–44
- Terminal sedation, for pain and suffering, 558–559
as euthanasia, 559
- Thalamotomy, 333
- Thalidomide, neuropathic pain from, 486
- Therapeutic Arthritis Research and Gastrointestinal Event Trial (TARGET), 264
- Therapeutic exercises, in pain rehabilitation, 368–370
- Therapeutic interventions, acute pain with, 56–57
chemical pleurodesis, 57
for CIN, 56–57
from postoperative procedures, 56
- Thoracotomy, postsurgical pain after, 71–72
post-thoracotomy syndrome, 149
- Thrombosis, acute pain with, 55–56
- Tiagabine, for neuropathic pain, 278–279
- Tocainide, as adjuvant analgesic, 279
- Tolerance levels, for opioid analgesics, 113–114
OIN influenced on, 240–241
pharmacogenetics influence on, 186
- Topical analgesics, for neuropathic pain, 500–501
- Topiramate, for neuropathic pain, 278
- Total pain, 457
- Touch, in rehabilitation, 362–363
- Toxicity. *See also* Opioid-induced neurotoxicity
agitation from, 113
from chemotherapy, 58–59
of hormonal therapy, palliative, 409, 413
of local anesthetic agents, 292
neuropathic pain from, 58–59
from opioid use, 113
agitation in, 113
of palliative radiotherapy, 384
from spinal delivery systems, 302
- Tramadol
for children, 441
for elderly, 449
for mild to moderate pain, 198–199
pharmacogenetics for, 187
- Transcutaneous electrical nerve stimulation (TENS), 357, 365
- Transdermal administration route, for opioids, 172–173
with iontophoresis, 173
- Transient receptor potential vanilloid (TRPV1), 29
- Transmucosal administration route, for opioid analgesics, 173
- Trastuzumab, palliative, 414
- Trazodone, 469
- Treatment fidelity, in psychological interventions, 350
- Treatment-induced neuropathic pain, 146–147
- Treatment programs, 588
- Tricyclic antidepressants
as adjuvant analgesics, 275
for neuropathic pain, 275, 494
for pain management with depression, 469–470
- Trigeminal neuralgia, 68
- Trigger points, pain management of, 358–359. *See also* Acupuncture, in pain rehabilitation
arthritides and, 359
manual intervention in, 360
- TRPV1. *See* Transient receptor potential vanilloid
- Tumor-derived products, for bone cancer pain, 29–30
endothelins, 29–30
kinins, 30
NGF, 30
prostaglandins, 29
COX-1 inhibitors and, 29
COX-2 inhibitors and, 29
- Tumor-related neuropathic pain syndromes, 67–70
cranial neuralgias, 68
glossopharyngeal, 68
trigeminal, 68
leptomeningeal metastases, 67–68
malignant painful plexopathy, 68–70
cervical, 68
lumbosacral, 69–70
malignant painful radiculopathy, 68
mononeuropathy, 70
paraneoplastic painful peripheral neuropathy, 70
paraneoplastic sensory neuropathy, 70
- Tumor-related somatic pain, 62
- Tumor-related visceral pain syndromes, 66–70
adrenal pain syndrome, 67
chronic intestinal obstruction, 67
hepatic distention syndrome, 66
malignant perineal pain, 67
midline retroperitoneal syndrome, 66–67
pancreatic cancer and, 66–67
peritoneal carcinomatosis, 67
ureteric obstruction, 67
- Ultrasound, for pain rehabilitation, 364
- Ureteric obstruction, 67
- Urinary retention, opioid-induced, 176–177, 237–238
after spinal administration, 290
- Urine toxicology screening, for chemically dependent patients, 427–428
- Varni-Thompson Pediatric Pain Questionnaire, 97, 137
- VAS. *See* Visual analogue scales
- Vascular events, acute pain with, 55–56
acute thrombosis, 55–56
superior vena cava obstruction, 56
- VDS. *See* Verbal descriptor scales

- Venlafaxine (Effexor)
for neuropathic pain, 276
for PMPS, 149
- Ventilator withdrawal, 561
- Verbal descriptor scales (VDS), 90
- Vertebral bone pain syndromes, 62
atlantoaxial destruction in, 62
C7-T1 syndrome, 62
odontoid fractures in, 62
sacral syndrome, 62
T2-L1 syndrome, 62
- Vertebroplasty, for bone pain, 527–528
- Vincristine, neuropathic pain from, 486
- Visceral pain
in bone pain, 518
cancer-related syndromes, 61
mechanisms of, 14–15
 serotonins and, 15
 symptoms in, 15
 transmission of, 14
with neurolytic blocks, 319
palliative radiotherapy and, 390–392
 for brain metastases, 390
 general pain, 390
 for liver, 391
 for lungs, 390–391
 for pelvic masses, 391–392
 for recurrent masses, 391–392
 for skin, 392
tumor-related syndromes, 66–70
 adrenal pain syndrome, 67
 chronic intestinal obstruction, 67
 hepatic distention syndrome, 66
 malignant perineal pain, 67
 midline retroperitoneal syndrome,
 66–67
 peritoneal carcinomatosis, 67
 ureteric obstruction, 67
- Visual analogue scales (VAS), 90–91
for children, 135
 measurement of pain in, 436
- Voltage-gated calcium channels, 480–482
- Water-based therapy, for pain rehabilitation,
 364–365
- WBRT. *See* Whole-brain radiation therapy
- WDR neurons. *See* Wide-dynamic range
 neurons
- WHO. *See* World Health Organization, pain
 ladder for
- Whole-brain radiation therapy (WBRT),
 390
- Wide-dynamic range (WDR) neurons, 4
 in bone cancer pain, 15
- Word-Graphic Rating Scale, 139
- World Health Organization (WHO), pain
 ladder for, 438–439
- Yoga
 for pain rehabilitation, 372
 as psychological intervention, for pain,
 348–349
- Ziconotide
 as nonopioid analgesic, 295–296
 spinal administration of, 7
- Zidovudine (AZT), 578
- Zoledronic acid, for bone pain, 281, 499
- Zonisamide, for neuropathic pain, 279