Pain Management Algorithm

Type of Pain

In the past, most chronic non-cancer pain (CNCP) has been thought to be either neuropathic or nociceptive in nature. The proposed cause of this type of pain emanates from the triggering of peripheral pain or sensory nerve pathways. Examples of peripheral neuropathic pain include post-herpetic neuralgia and diabetic neuropathic pain, and examples of peripheral nociceptive pain include rheumatoid and osteoarthritis. As a result, peripherally directed therapies such as injections, surgery, topical treatments, and even sometimes opioids are favored in this pain model. Central pain or central sensitization (CS) is an ever increasingly recognized cause of pain, separate from nociceptive and neuropathic pain, and is not responsive to peripherally directed therapies or opioids. While the quintessential central pain state is fibromyalgia, current research suggests that centralized pain is more accurately described as a spectrum disorder. Common CNCP diagnoses that are linked to CS include chronic headaches, chronic low back pain, and fibromyalgia. The patient examination, labs, and imaging are often inconclusive in centralized pain syndromes, emphasizing the importance of a careful patient history, review of symptoms, and use of validated centralized sensitization screening tools (CSI and PSQ). In addition, the high occurrence of anxiety, depression, PTSD, and substance use disorders in patients with CS make the screening for these disorders critical in the initial assessment. Successful treatment of CS is dependent on behavioral treatment options, sleep and stress management, and dietary intervention; repeated scans, procedures, injections, and opioids are ineffective and may result in unnecessary harm. Pharmacologic options that may garner some success are centrally acting agents, such as tricyclic antidepressants and serotonin-norepinephrine reuptake inhibitors, which target mechanisms that are often dysfunctional in patients having chronic pain and CS.

Chronic pain in general is best described as a bio-psycho-social process, due to the effect of a patient's mental health, trauma history, family, and social situations on the perception of pain. These key behavioral components should be addressed prior to escalation to chronic opioid therapy for management of pain. **In fact, cognitive behavioral therapy (CBT) is the gold standard and first-line treatment for all chronic disease states, including and especially chronic pain. If and/or when a patient's pain progresses from acute to chronic, CBT should immediately be employed and maintained as the backbone of their chronic pain management therapy.** Studies show that opioids are only moderately successful in relieving acute pain and even less effective for the management of chronic pain; alternatively, sleep restoration, physical exercise, and mindfulness training provide much greater long-term benefit.

Treatment Algorithm

Treatment	Nociceptive Pain	Neuropathic Pain	Mixed Pain
1st Line	Nonpharmacological		
	Acute trial of nonsteroidal anti-inflammatory drug/acetaminophen		
	Add topical agent (nonsteroidal anti-inflammatory drug, lidocaine, capsaicin, menthol)		
		Gabapentinoids	
		Serotonin-norepinephrine reuptake inhibitor	
		Tricyclic antidepressant	
2nd Line Intended to be added to 1st-line therapy, when appropriate	Serotonin-norepinephrine reuptake inhibitor	Antiepileptics	Gabapentinoids
	Tricyclic antidepressant		Serotonin-norepinephrine reuptake inhibitor
			Tricyclic antidepressant
	Condition-specific pharmacologic agents		
	Consider referral to specialist		
3rd Line Intended to be added to 1st and 2nd – line therapy, when appropriate	Acute add-on muscle relaxer		
	Interventional therapy		
	Consider short (<7 days) trial of opioid agent* for breakthrough pain		
	Referral to specialist		

*Monoproduct opioid agents are preferred (rather than combination agents) so that acetaminophen can continue to be scheduled around the clock. Monoproducts include morphine sulfate IR, oxycodone IR, and tramadol.

Adopted from the West Virginia Safe & Effective Management of Pain (SEMP) Guidelines. www.sempguidelines.org.

Condition-Specific Pharmacologic Agents

- **Bursitis/Joint Pain:** steroid injection
- **Headache/Migraine Prevention/Treatment:** steroid, propranolol, antiepileptic, sumatriptan, caffeine, magnesium supplement, BOTOX injections
- **Abdominal Pain:** metoclopramide, prochlorperazine, olanzapine, haloperidol, dicyclomine

Nonpharmacologic Treatments

- **Lifestyle Modification:** exercise, diet/nutrition, weight management, sleep restoration, mindfulness-based stress reduction
- **Physiotherapy Options:** physical therapy, occupational therapy, therapeutic exercise, massage
- **Procedure-Based Interventions:** trigger point injection, dry needling, nerve block, steroid injection, ablation, TENS, ice, heat, compression, elevation, splinting, orthotics
- **Complementary and Alternative Treatments:** Acupuncture, manipulative therapy, herbals, dietary supplements, phyto-chemicals

Behavioral Treatment Options

- **Psychotherapy:** cognitive behavioral therapy, group therapy, individual counseling, breathing and relaxation exercises, biofeedback therapy, sleep hygiene psychoeducation
- **Substance Use Disorder Treatment:** medication assisted treatment referral,
- **Trauma-Related Care:** screening for domestic violence, child abuse, PTSD
- **Group-Based Education:** shared medical appointments, peer-to-peer meetings, preventive workshops

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