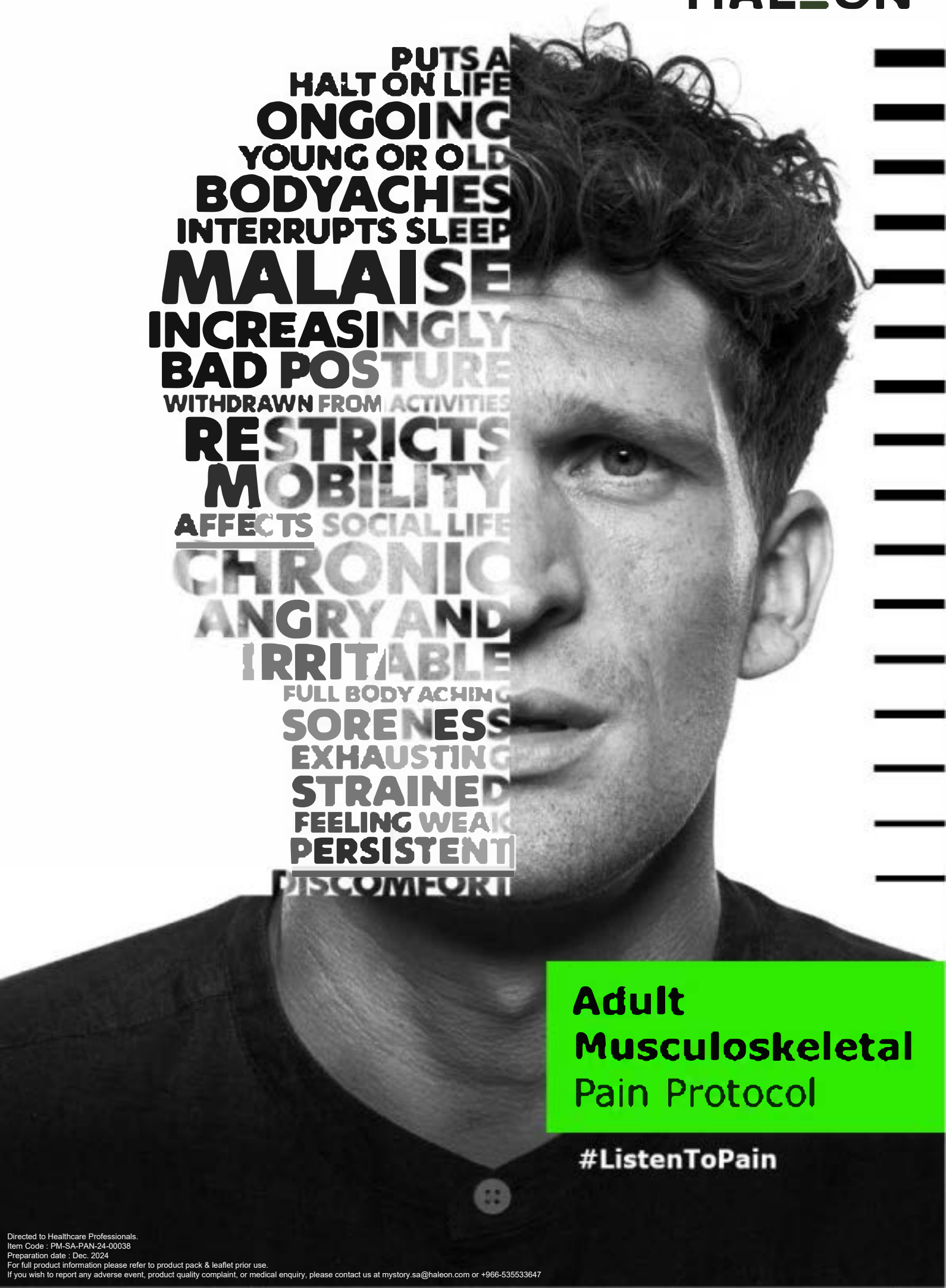
HALEON



Adult Musculoskeletal Pain Protocol

#ListenToPain

Directed to Healthcare Professionals.
Item Code : PM-SA-PAN-24-00038
Preparation date : Dec. 2024
For full product information please refer to product pack & leaflet prior use.
If you wish to report any adverse event, product quality complaint, or medical enquiry, please contact us at mystory.sa@haleon.com or +966-535533647

HALEON

Musculoskeletal Pain Protocol

MANAGEMENT OF ACUTE, NON–LOW BACK, MUSCULOSKELETAL INJURIES IN ADULTS

STEP 1: ASSESS MUSCULOSKELETAL PAIN

1. ASK PATIENT ABOUT PAIN ASSOCIATED WITH MUSCULOSKELETAL DISORDERS[1-3]

Aching and stiffness	Muscle twitches	Burning sensation in the muscles	Local pain that worsens with movement	Fatigue/ sleep disturbance

Essential elements of pain history include onset, location, duration, intensity and aggravating and relieving factors.

2. IDENTIFY SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1,3,4]

Older age at new symptom onset	Trauma
Fever and sweats	Unexplained weight loss
Neurological features	Unexplained fever
Duration of pain for more than 3 months	Immunosuppression
Night pain	Previous history of cancer

STEP 2: IDENTIFY TREATMENT CONSIDERATIONS

IDENTIFY ANY CONDITIONS OR MEDICATIONS LIMITING TREATMENT OPTIONS

Medications limiting treatment[5-7]	Medical conditions limiting treatment[5, 8-11]
• **NSAIDs*** – Risk of bleeding, decreased antihypertensive efficacy, increased drug levels of medicines like methotrexate • **Paracetamol** -Increased risk of paracetamol toxicity	• Chronic kidney disease • Liver disease • Peptic Ulcer disease • Cardiovascular Disease

* With oral NSAIDs only; NSAIDS = non steroidal anti-inflammatory agents

IDENTIFY WHAT THE PATIENT HAS USED IN THE PAST TO TREAT MUSCULOSKELETAL PAIN

HALEON

STEP 3: RECOMMEND TREATMENT

DOES THE PATIENT HAVE ANY PREFERENCE FOR TREATMENT BASED ON WHAT WAS USED IN THE PAST?

IF YES

Recommend non-pharmacological treatment[1,2,12]

- Hot and cold therapy
- Strengthening and conditioning exercises
- Stress reduction techniques.
- Massage therapy
- Specific acupressure therapy
- Transcutaneous electrical nerve stimulation

AND

Recommend the patient's preference if possible, taking into consideration step 2

IF NO

Recommend non-pharmacological treatment[1,2,12]

- Hot and cold therapy
- Strengthening and conditioning exercises
- Stress reduction techniques.
- Massage therapy
- Specific acupressure therapy
- Transcutaneous electrical nerve stimulation

AND

Recommend appropriate pharmacological treatment[12,13,15-21]

- **Topical analgesics** – Diclofenac gel

- **Non-opioid analgesics:**
- Oral Paracetamol: 500 -1000 mg (Maximum daily dose 3-4 grams)
- Oral NSAIDs- Ibuprofen (400-800 mg), Naproxen (250-500 mg), Celecoxib (200-400 mg)

- **Opioid analgesics**- Morphine (15-60 mg), Tramadol (50-200 mg), Codeine (30-60 mg)

- **Adjuvant analgesics**
  - Anticonvulsants [gabapentin (200–400 mg); pregabalin (75–300 mg)]
  - Tricyclic antidepressants amitriptyline (10–150 mg); nortriptyline (25-100 mg)]
  - Serotonin-norepinephrine re-uptake inhibitors (duloxetine 60 mg)

HALEON

Musculoskeletal Pain Protocol

MANAGEMENT OF ACUTE, NON–LOW BACK, MUSCULOSKELETAL INJURIES IN ADULTS

STEP 1: ASSESS SYMPTOMS

1. Questions to ask (Table 1)
2. Assess Pain Type: Pain may be classified by underlying etiology, anatomic location, temporal nature, and intensity. (Table 2)
3. Symptoms or circumstances requiring referral (Table 3)

STEP 2: IDENTIFY TREATMENT CONSIDERATIONS

1. Questions to ask to customise musculoskeletal pain treatment (Table 4)
2. Conditions and medications (Tables 5 and 6)
3. Assess previous treatment (Table 7)
4. Questions to ask about previous treatment (Table 7)

STEP 3: RECOMMEND TREATMENT

1. Non-pharmacological recommendations (Table 8)
2. Pharmacological recommendations (Table 9)

HALEON

STEP 1: ASSESS SYMPTOMS

TABLE 1

QUESTIONS TO ASK (Essential elements of pain history)[13]
1. Onset of recent pain When did the pain start and what was the patient doing when it started? Was the onset sudden, gradual, or an exacerbation of a chronic problem?
2. Aggravating and alleviating factors What makes the pain better and what makes it worse? How does physical activity or position affect pain? Do any nonpharmacological therapies or medications relieve the pain?
3. Quality of pain experience Ask the patient "Can you describe the pain?" Ideally, this will elicit descriptions of the patient's pain: whether it is sharp, dull, crushing, burning, tearing, or some other feeling, along with the pattern, such as intermittent, constant, or throbbing.
4. Location of pain Where pain is on the body and whether it radiates (extends) or moves to any other area?
5. Severity of pain Ask the patient to describe the intensity of pain at baseline and during acute exacerbations, typically done using a pain scale. [Visual analog scale (VAS), numerical rating scale (NRS), verbal rating scale (VRS)]
6. Circumstances of original pain Identify when the pain started, under what circumstances, duration, onset (sudden/gradual), frequency, whether acute/chronic.

TABLE 2

ASSESS THE TYPES OF PAIN AND THE UNDERLYING MECHANISMS
(Pain may be classified by underlying etiology, anatomic location, temporal nature, and intensity)[13-15]

Type of pain	Mechanism and Characteristics	Examples
Underlying etiology		
Nociceptive (category of pain implicated in musculoskeletal pain)	Direct tissue injury from a noxious stimulus. Pain is sharp, throbbing, or aching and is usually well localized	Bone fracture, fresh surgical incision, and fresh burn injury.
Inflammatory	Released inflammatory mediators that control nociceptive input.	Late stages of burn healing, neuritis, and arthritis
Neuropathic	Direct injury to nerves leading to an alteration in sensory transmission. Burning, shooting, electric-like, numbness, pins or needles	Diabetic neuropathy, peripheral neuropathic pain, and post herpetic neuralgia.
Mixed pain	Occurs when a component of continued nociceptive pain coexists with a component of neuropathic pain in the same patient.	Persistent back and leg pain following lumbar spine surgery

TABLE 2 CONT.

HALEON

TABLE 2 CONT.

ASSESS THE TYPES OF PAIN AND THE UNDERLYING MECHANISMS (Pain may be classified by underlying etiology, anatomic location, temporal nature, and intensity)[13-15]		
Type of pain	**Mechanism and Characteristics**	**Examples**
Underlying etiology		
Idiopathic	No definite cause to explain the pain. Psychological factors may be involved with this type of pain	Chronic back pain without preceding trauma or obvious inciting event.
Anatomic location		
Somatic (musculoskeletal)	Originate from superficial tissues such as the skin, subcutaneous tissues, and muscles due to soft tissue inflammation or trauma. Intermittent to constant pain, characterized by sharp, knife-like, and it is with localized pain (the patient is able to point to exactly where the pain is)	Bone pain (fractures), joint pain (stiffness), muscle pain (spasms, cramps), tendon and ligament pain (Sprains, strains and overuse injuries)
Visceral	Originates from deep internal organs or tissues that support them. Dull aching pain, colicky, or cramping in nature. It is poorly localized, usually referred to distal structures, and is associated with nausea/vomiting	Appendicitis, Endometriosis, Biliary colic
Temporal		
Acute	Lasting less than 3 months Is a neurophysiological response to noxious injury that should resolve with normal healing	Post operative pain, acute fracture, acute knee sprain.
Chronic	Lasting more than 3 months or beyond the expected course of an acute disease or after complete tissue healing.	Chronic low back pain, fibromyalgia, arthritis
Acute on Chronic	An acute exacerbation of a chronic pain syndrome	Rheumatoid arthritis
Pain intensity (mild, moderate, severe) Pain Intensity is determined by pain assessment scores in combination with history and physical exam. Pain intensity is subjective and may vary.		

HALEON

TABLE 3

SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1,3,4]

"Red flags," indicate the possible presence of a more serious underlying condition

- Systemically unwell (fever, weight loss)
- Night pain that prevents sleep due to escalating pain and/or difficulty lying flat.
- Older age at new symptom onset
- Previous history of cancer
- Duration of pain for more than 3 months

Emergency conditions

- People presenting with spinal and leg pain, with neurological symptoms and any suggestion of changes in bladder or bowel function
- Spine pain with band-like referral, escalating pain and gait disturbance
- Sudden onset of a hot swollen painful joint and multidirectional restriction in movement

Other reasons for referral include:

- Escalating pain and progressively worsening symptoms that do not respond to conservative management or medication as expected

HALEON

STEP 2:
IDENTIFY TREATMENT CONSIDERATIONS

TABLE 4

QUESTIONS TO ASK TO CUSTOMIZE MUSCULOSKELETAL TREATMENT
• Are you taking any medication, both prescribed and over the counter? If yes, what are those and what is the dose? • Do you have any medical conditions? • What have you used before for your musculoskeletal pain? • What are the triggers for your pain? • What are the aggravating or relieving factors?

TABLE 5

MEDICATIONS TO USE WITH CAUTION WITH PARACETAMOL OR ORAL NSAIDS[5-7]	
Concern	**Potential drug interaction**
Increased risk of bleeding with oral NSAIDs	• Some Selective-Serotonin Reuptake Inhibitors (SSRI) • Some tricyclic antidepressants • Acetylsalicylic acid (ASA) • Corticosteroids • Warfarin
Decreased antihypertensive efficacy with oral NSAIDs	• Angiotensin converting enzyme (ACE) inhibitors • Angiotensin II receptor blockers (ARBs) • Diuretics • Beta-blockers
Increased drug levels with oral NSAIDs	• Lithium • Methotrexate
Increased risk of paracetamol toxicity	• Epilepsy medications (e.g. carbamazepine) • Other P450 enzyme inducers (e.g. isoniazid, rifampin) • Alcohol

HALEON

STEP 2:
IDENTIFY TREATMENT CONSIDERATIONS

TABLE 6

CONSIDERATIONS WHEN SELECTING ANALGESICS IN PATIENTS WITH COMORBIDITIES[5-11]

Comorbidity	Notes
Chronic kidney disease	• NSAIDs have proven nephrotoxic class effects and should be avoided where possible in patients with symptoms of renal impairment. • Paracetamol is the preferred first-line analgesic for episodic treatment of mild pain in patients with renal dysfunction, CKD, and/or requiring dialysis. However, dose minimization may sometimes be warranted (maximum of 3 g/day has been recommended for patients with advanced kidney failure).
Liver disease	• NSAIDs- NSAIDs can cause acute liver injury with variable severity. • Paracetamol: Not contraindicated in liver disease. Can cause liver toxicity if taken in large amounts.
Peptic-ulcer disease	• Chronic NSAID drug use is associated with potentially serious upper gastrointestinal adverse drug reactions including peptic ulcer disease and gastrointestinal bleeding. • Paracetamol – Lesser risk of adverse effects compared to NSAIDs
Cardiovascular (CV) disease	• All non-aspirin NSAIDs may be associated with a potential increase in CV thrombotic risk. • NSAIDs are contraindicated in patients who have undergone coronary artery bypass graft surgery • Use of paracetamol at recommended doses is not associated with any additional risk of major CV events.

TABLE 7

QUESTIONS TO ASK TO ABOUT PREVIOUS TREATMENT

- What have you used before to treat your musculoskeletal pain?
  - What dose did you use?
  - Was it effective?
  - Did you have any side effects from it?
- Do you have any preference for any specific treatment?

HALEON

STEP 3: RECOMMEND TREATMENT

TABLE 8

NON-PHARMACOLOGICAL RECOMMENDATIONS FOR MUSCULOSKELETAL PAIN
(Management of acute, non-low back, musculoskeletal injuries in adults)[1,2,12]

Physical modalities

- Strengthening and conditioning exercises (patients must be careful not to overuse or injure muscles and joints)
- Local heat or cold therapy
- Manual therapies (spinal manipulation, massage, and mobilization techniques)
- Stimulation techniques (acupuncture, transcutaneous electrical nerve stimulation [TENS]
- Percutaneous electrical nerve stimulation

Psychosocial modalities

- Patient education
- Stress reduction techniques.
- Support groups
- Biofeedback

TABLE 9

MEDICATIONS FOR MANAGEMENT OF ACUTE, NON-LOW BACK, MUSCULOSKELETAL INJURIES IN ADULTS[12,13,15-21]

Medication and Single Dose	Adverse effects	Drug Interactions	Comments
Non-opioid analgesics			
Topical NSAIDs (diclofenac) with or without menthol gel	Can cause application-site reactions.		Recommended by guidelines as first-line therapy to reduce or relieve symptoms, including pain; improve physical function; and improve the patient's treatment satisfaction.
Oral Paracetamol Mild-moderate pain: 500-1000 mg (Maximum daily dose: 3-4 grams))	Has wide safety margin. Overdose may cause hepatic toxicity.	Chronic alcohol use increases the risk of hepatotoxicity. Acetaminophen has been reported to increase INR in warfarin-treated patients.	Recommended by guidelines to reduce pain. (mild to moderate pain) Used for wide range of painful conditions and in all age groups.
Oral NSAIDs Ibuprofen 400-800 mg Naproxen 250-500 mg Celecoxib 100- 200 mg	Increased risk for GI bleeding (higher in elderly) Risk of renal dysfunction in elderly.	Can worsen blood pressure among patients with hypertension.	Recommended by guidelines to reduce or relieve symptoms, including pain, and to improve physical function. It is recommended to take the lowest dose for the shortest time possible.

TABLE 9 CONT.

TABLE 9 CONT.

MEDICATIONS FOR MANAGEMENT OF ACUTE, NON–LOW BACK, MUSCULOSKELETAL INJURIES IN ADULTS[12,13,15-21]			
Medication and Single Dose	**Adverse effects**	**Drug Interactions**	**Comments**
Opioid analgesics			
• Morphine (oral): 15–60 mg • Tramadol (oral): 50–200 mg • Codeine (oral): 30–60 mg • Codeine (30–60 mg) + paracetamol (300–1000 mg) (oral)	Associated with the risk for prolonged use and abuse. Can cause neurologic adverse events (Agitation, anxiety, blurred vision, confusion, dizziness, drowsiness, etc.)	Erythromycin increases and rifampicin decreases the effects of opioids. Carbamazepine, phenytoin and the barbiturates can enhance the metabolism of opioids.	Conditional recommendation by guidelines with low-certainty evidence. Lowest effective immediate release opioid dose for the shortest period possible is advised. Duration of treatment is restricted to ≤ 7 days.
Adjuvant analgesics			
Anticonvulsants [e.g., gabapentin (200–400 mg TID); pregabalin (75–300 mg BID)]	Gabapentin adverse effects: dizziness, somnolence, peripheral Oedema, and gait disturbance. Pregabalin adverse events include events related to cognition and co-ordination.	Gabapentin can interact with losartan, ethacrynic acid, caffeine, phenytoin, mefloquine, magnesium oxide, cimetidine, naproxen, sevelamer and morphine. Buprenorphine, naloxone, cyclobenzaprine, hydroxyzine, quetiapine, gabapentin, opioids, benzodiazepines can increase the risk of side effects from Pregabalin.	Gabapentin is effective for the treatment of patients with neuropathic pain. Pregabalin is recommended for fibromyalgia. It's best to avoid drinking alcohol while taking Pregabalin.
Tricyclic antidepressants [e.g., amitriptyline (10–150 mg every 24 hrs.); nortriptyline (25-100 mg every 24 hrs.)]	Blurred vision, constipation, xerostomia, confusion, urinary retention, and tachycardia	Potential drug interactions with Monoamine oxidase inhibitors, Selective serotonin reuptake inhibitors, anticholinergic drugs, anticoagulants and blood pressure medications.	Amitriptyline is effective in reducing pain, fatigue and sleep disturbances in patients with fibromyalgia. FDA mandates that all TCAs include a boxed warning on the label, cautioning users about the potential risks and elevation of suicidal thoughts or behaviors when using these drugs.
Serotonin norepinephrine re-uptake inhibitor (SNRI) (e.g., duloxetine 60 mg every 24 hrs.)	Adverse effects-nausea and constipation	May increase the risk of bleeding with concomitant use of ibuprofen, aspirin, warfarin and other blood thinners.	Considered as second line therapy for the treatment of patients with a variety of chronic pain conditions such as diabetic neuropathic pain, fibromyalgia, etc.

REFERENCES

1. Atchison JW, et al.NSAIDs for Musculoskeletal Pain Management: Current Perspectives and Novel Strategies to Improve Safety. J Manag Care Pharm. 2013 Nov;19(9 Suppl A):10.18553/jmcp.2013.19.s9.1. doi: 10.18553/jmcp.2013.19. s9.1
2. Cleveland Clinic. Musculoskeletal Pain. Last reviewed 03/10/2021. Available at https://my.clevelandclinic.org/health/diseases/14526-musculoskeletal-pain. Accessed December 2023.
3. International Pharmaceutical Federation (FIP). Empowering self-care: A handbook for pharmacists. The Hague: International Pharmaceutical Federation; 2022
4. Urgent and Emergency Musculoskeletal Conditions Requiring Onward Referral. Updated 3 December 2020 Version 2. Available at https://arma.uk.net/wpcontent/uploads/2021/01/ Urgent-emergency-MSK-conditions-requiring-onward-referral-2.pdf
5. Moore N, Pollack C, Butkerait P. Adverse drug reactions and drug-drug interactions with over-the-counter NSAIDs. Ther Clin Risk Manag. 2015 Jul 15; 11:1061-75.
6. Vostinaru O. Adverse Effects and Drug Interactions of the Non-Steroidal Anti-Inflammatory Drugs [Internet]. Nonsteroidal Anti-Inflammatory Drugs. InTech; 2017. Available from: http://dx.doi.org/10.5772/intechopen.68198. Accessed December 2023.
7. Agrawal S, Khazaeni B. Acetaminophen Toxicity. [Updated 2023 Jun 9]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK441917/.
8. John Alchin, Arti Dhar, Kamran Siddiqui & Paul J. Christo (2022) Why paracetamol (acetaminophen) is a suitable first choice for treating mild to moderate acute pain in adults with liver, kidney or cardiovascular disease, gastrointestinal disorders, asthma, or who are older, Current Medical Research and Opinion, 38:5, 811-825, DOI: 10.1080/03007995.2022.2049551
9. Meunier L, Larrey D. Recent Advances in Hepatotoxicity of Non-Steroidal Anti-Inflammatory Drugs. Ann Hepatol. 2018 Mar 1;17(2):187-191.
10. McEvoy L, Carr DF, Pirmohamed M. Pharmacogenomics of NSAID-Induced Upper Gastrointestinal Toxicity. Front Pharmacol. 2021 Jun 21; 12:684162.
11. Ghlichloo I, Gerriets V. Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) [Updated 2023
May 1]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK547742/. Accessed December 2023.
12. Qaseem A, et al. Nonpharmacologic and Pharmacologic Management of Acute Pain From Non-Low Back, Musculoskeletal Injuries in Adults: A Clinical Guideline From the American College of Physicians and American Academy of Family Physicians. Ann Intern Med. 2020 Nov 3;173(9):739-748. doi: 10.7326/M19-3602. Epub 2020 Aug 18. Erratum in: Ann Intern Med. 2023 Apr;176(4):584
13. PAMI- Pain assessment and management initiative. Basics of Pain Assessment and Management. Updated May 20, 2019. Available at https://pami.emergency.med.jax.ufl.edu/wordpress/files/2019/10/PAMI-Basic-Principles-of-Pain-Management-final.pdf. Accessed December 2023.

REFERENCES CONT.

REFERENCES CONT.

14. Chen JS, Kandle PF, Murray IV, et al. Physiology, Pain. [Updated 2023 Jul 24]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK539789/
15. El-Tallawy SN, Nalamasu R, Salem GI, LeQuang JAK, Pergolizzi JV, Christo PJ. Management of Musculoskeletal Pain: An Update with Emphasis on Chronic Musculoskeletal Pain. Pain Ther. 2021 Jun;10(1):181-209.
16. Scottish Intercollegiate Guidelines Network (SIGN). Management of chronic pain. Edinburgh: SIGN; 2013, Revised 2019. (SIGN publication no. 136). https://www.sign.ac.uk/assets/sign136.pdf.
17. Quintero GC. Review about gabapentin misuse, interactions, contraindications and side effects. J Exp Pharmacol. 2017 Feb 9; 9:13-21. doi: 10.2147/JEP.S124391.
18. Maurer PM, Bartkowski RR. Drug interactions of clinical significance with opioid analgesics. Drug Saf. 1993 Jan;8(1):30-48.
19. Lyrica interactions: Alcohol, medications, and other factors. Last medically reviewed on July 22, 2022. Available at https://www.medicalnewstoday.com/articles/drugs-lyrica-interactions. Accessed December 2023.
20. Moraczewski J, Awosika AO, Aedma KK. Tricyclic Antidepressants. [Updated 2023 Aug 17]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK557791/
21. Mayo clinic- Serotonin and norepinephrine reuptake inhibitors (SNRIs). Reviewed Oct. 05, 2019. Available at https://www.mayoclinic.org/diseases-conditions/depression/in-depth/antidepressants/art-20044970. Accessed December 2023.