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| **Acute Pain Management-**  **Post-Procedure Clinical Pathway** | |
|  | **Key Words:**   * Acute Pain * Pain Management * Post-operative * Post-Procedural * Opioid Prescribing * Discharge Medicine Prescribing |
|  | **Target Audience:**  **Pathway Content Application:** This pathway applies to the following organizations-   * Kootenai Care Network * Kootenai Health Ambulatory Clinics * Kootenai Health Outpatient Services * Kootenai Health Surgery Centers |
|  | **Objective**:  **Intent**: The purpose of this pathway is to provide an evidence based guideline for the treatment of acute procedural/surgical pain patients after discharge. It is our goal that this pathway will:   * Improve patient safety * Decrease the rate of opioid prescribing for adults (18 years or older) * Decrease diversion of prescribed medication * Promote evidence based, guideline adherent, and mechanisms cognizant pain management * Promote prompt diagnosis, effective assessment and appropriate treatment of pain * Facilitate discovery of comorbid conditions contributing to symptoms * Improve standardization of pain treatment practices in order to make our expectations for our patients more transparent, improve accountability for patients, and increase consistency for staff protocols. |
|  | **Patient Population- Inclusion and Exclusion Criteria:**  This pathway provides the guidelines for management of acute procedural/surgical pain. Acute pain is defined as any new pain which is expected to have a short duration and improve during the anticipated healing time. This pathway covers diagnoses including but not limited to:   * Adult, non-cancer, acute and subacute pain (outpatient) * Adult, non-cancer chronic pain patients experiencing unrelated acute pain, including withdrawal pain * Adult, non-cancer chronic pain patients with acute pain exacerbation * Adult, post-procedure/surgery pain management at discharge |
|  | **Rationale and Background**:  Misuse and abuse of prescription opioids is recognized second only to marijuana usage with opioid overdose now being recognized as the leading cause of accidental death in the United States. State governments, the Center of Disease Control (CDC), as well as third-party payer organizations have already begun to restrict and decrease the number of patients on high doses of opioids. Opioids are also recognized to contribute to significant adverse effects such as respiratory depression, allodynia, and hyperalgesia. These in turn contribute to further increases health risks for our patients.  Recommendations from multiple organizations, such as the CDC and Mayo Clinic, have documented that the majority of patients can and should be treated with the lowest effective dose of opioids. They also state that a majority of these patients will require no more than 90 morphine milligram equivalencies (MME) per day. It is also well documented that there is an opioid crisis not only in our country but also in our own community. Research also shows that patients use 50% or less of their post-procedural/surgical discharge controlled medication prescription. Some research even suggests minimizing prescriptions to 1 to 3 days of therapy after procedures. This pathway is an attempt to begin to standardize pain management in our community and region. Multidisciplinary pain management will be the central theme to the treatment of pain. Multimodal therapies, motivational interviewing techniques, counseling and education will all be utilized as the primary treatment pathways. Opioids will be secondary and will only be a small component of patient’s pain management. |
|  | **Recommendations for Post-Procedural Pain Management:**  **Pre-Procedural Process:**  **I. Initial Assessment Pre-Procedural/Surgical:** All patients have the right to safe and effective pain management applied with respect to cognitive and physical abilities, culture, ethnicity, age, and gender. The acute pain intake encounter will cover the following:   1. Review of records, if available, at the time of intake. If records are not yet obtained, get permission to release the records for review when they become available. 2. A set of resources to assist in the history taking on new pain management patients, or patients presenting with a new pain complaint, will be provided. This includes:    1. **Prescription Monitoring Program (PMP) Screening for current or recent opioid use:** All physicians and NPs have the ability to sign up for both the Idaho and Washington Prescription Monitoring Program (PMP). In addition, CMAs can be given delegate access which in turn will promote a more effective workflow. Therefore, both the Idaho and Washington PMP database should be checked at all visits to ensure that prescriptions from other facilities are not being filled or that the patient is receiving early refills.       1. Idaho PMP: https://idaho.pmpaware.net/login       2. Washington PMP: <https://secureaccess.wa.gov/>    2. **Pain Inventory and Assessment (See addendum 1):** Assessment of the patient’s pain, function, and wellbeing will be performed by the provider. The patient’s self-report will be accepted as the most accurate measures of the current level of the patient’s pain. This will include education regarding expectations of the patient’s pain and will work with the patient to establish agreed upon goals. Also, during this visit the provider will educate the patient about Multidisciplinary pain management options. Based on goals and pain management options, an individualized pain treatment plan will be created with the patient which will assess for challenges and follow up schedule.       1. The Brief Pain Inventory questionnaire (See Addendum 1).       2. The Assessment and Management of Chronic Pain Algorithms will also be utilized to identify and treat the source of the patient’s pain (See Addendum 4).       3. Assessment of Vitamin D and iron levels. Low vitamin D and/or iron levels can contribute to an increase in some types of pain.    3. **Mental Status Assessment, such as PHQ-9 (See addendum 2):** Completion of a mental status assessment such as PHQ9 is required at least annually for every patient. Best practices recommend screening for depression prior to initiation of any controlled substance. Please confirm that the patient has completed their annual screening at the initial acute pain visit. If they have not completed a depression screen, complete one at the initial visit and any follow up visits as appropriate to identify any additional risks for the patient’s treatment plan. This screening form may be completed by the patient either electronically before or upon arrival to the clinic or on paper upon arrival to the clinic. It will be reviewed by the provider and discussed with the patient during the visit to assess the appropriateness of the pain management plan.    4. **Opioid Risk Tool (See addendum 3):** If an opioid is prescribed for acute pain, an opioid risk tool should be used at the initial visit to identify the patient’s risk for opioid addiction. If patient’s risk score is high, score ≥8, it is recommended that no opioid therapy be prescribed based on safety of the patient.   **II. Multidisciplinary Pain Management Plan:** It is extremely important to stress to the patient the goals of pain management. Opioid therapy focuses on improvement of functional status and is only used for short-term use or in low dosages due to patient safety risks. Attempt to identify the root cause of the patient’s pain should always be assessed and optimally treated before opioids are initiated or dosages increased whenever possible. Opioids will be started on a short-term basis and continuation of opioid therapy will be considered on a patient-by-patient basis. Such patients will then be enrolled in the Multidisciplinary Pain Management Care Program and will be treated according to the Multidisciplinary Chronic Pain Management Pathway.   1. **Non-Opioid therapy (See Addendum #4):** Therapies include but are not limited to:    1. Pain Education and Counseling    2. Lifestyle Modifications    3. Physical Medicine and Rehabilitation    4. Alternative/Complementary Therapies    5. Interventional Pain Management Therapies    6. Topical, oral, and injectable medication options     **Post-Procedural Acute Pain Management:**   1. **Post-Procedural/Post-Operational Patients:** Patients in this group should receive thorough education on alternative pain management options as well as realistic expectations before their procedure. Patient’s pain management plan should be determined collaboratively with the patient’s primary care provider (PCP) and specialist whenever possible. Ideally, an attempt should be made to **wean patients to 50 MME or less prior to any elective procedure**. It is preferred that patients should not receive opioids only at discharge, but should receive appropriate multimodal therapy. Pre-procedural dosages of appropriate medications, such as gabapentin or localized anesthesia, may be given to help minimize the use of opioids post-procedurally. If opioid therapy is determined to be appropriate, only a **7-to-14-day supply** will be provided at a morphine milligram equivalency (MME) of **no more than 210 MME/day and based on the following algorithm**.  |  |  | | --- | --- | | **Opioid Discharge Prescription Dosing Recommendations** | | | # Pills actually administered the day before discharge | # of pills on Discharge Opioid Prescription (MAXIMUM) | | 0 | 0 | | 1-3 | 10 | | 4+ | 30 |      * 1. **Prescribing Opioids Before Procedure:** Surgeon/Specialist should jointly determine the patient’s pain management treatment plan with the patient’s PCP prior to the patient’s procedure when possible. An opioid agreement (see attached sample) will be utilized whenever possible to assist with setting expectations and guidelines as they relate to opioid prescribing for a patient. The patient and prescriber will both sign the agreement and the patient will be provided with a copy of this signed document prior to surgery. Any opioid therapy will be electronically sent to the pharmacy with a note not to fill until after a specified date which is no earlier than 3 days prior to the patient’s procedure.   2. **Provider Communication**: Surgeon/Specialist should attempt to utilize patient’s current pain management treatment plan as much as possible both before and after surgery. This entails utilizing the patient’s current chronic regimen as a baseline for the patient and determining the anticipated size and duration of the surgery as well as the potential for postoperative pain in determining additional opioid to add.   3. **Follow-up:** Patients will be expected to follow up with their PCP and surgeon/specialist as scheduled. Pain management related to the recovery from the procedure is to be managed by the surgeon, in collaboration with the patient’s primary care provider. The surgeon will determine if additional opioid therapy is appropriate based on the patient’s recovery for a period of no longer than 90 days after the date of surgery/procedure.  1. **Complex Patients**: It is understood that there may be situations, or a unique clinical scenario, in which this pathway does not cover, or where the suggested pathway may not be appropriate. These situations should be noted, discussed, and documented in the electronic health record. A case review referral to the Multidisciplinary Pain Management Care Program may be utilized to help determine a Multidisciplinary pain management plan for such patients. |
|  | **Algorithm:** *See pages 2 to 5 of link*  <https://www.icsi.org/wp-content/uploads/2019/01/Pain.pdf> |
|  | **References/Supporting Evidence**:   * Argoff, C., Albrecht, P., Irving, G., & Rice, F. (2009). Multimodal Analgesia for Chronic Pain: Rationale and Future Directions. Pain Medicine, 10(suppl 2), S53-S66. doi: 10.1111/j.1526-4637.2009.00669.x * Ballantyne, J., Fishman, S., & Rathmell, J. (2010). Bonica's Management of Pain (4th ed.). LWW. * Bates, C., Laciak, R., Southwick, A., & Bishoff, J. (2011). Overprescription of Postoperative Narcotics: A Look at Postoperative Pain Medication Delivery, Consumption and Disposal in Urological Practice. Journal Of Urology, 185(2), 551-555. doi: 10.1016/j.juro.2010.09.088 * Centers for Disease Control and Prevention. (2017). CDC Guidelines for Prescribing Opioids for Chronic Pain- United States, 2016. U.S. Department of Health and Human Services. * Centers for Disease Control and Prevention. (2017). Characteristics of Initial Prescription Episodes and Likelihood of Long-Term Opioid Use- United States, 2006-2015. Centers for Disease Control and Prevention. * Chronic Pain Management Toolkit. (2018). Retrieved from <https://www.aafp.org/patient-care/public-health/pain-opioids/cpm-toolkit.html> * Fudin, J., Raouf, M., & Wegrzyn, E. (2018). Opioid Dosing Pathway: Pharmacological Considerations Regarding Equianalgesic Dosing- A White Paper from the Academy of Integrative Pain Management. Academy of Integrative Pain Management. * Guidelines for the Chronic Use of Opioid Analgesics. (2018). Retrieved from <http://www.fsmb.org/siteassets/advocacy/policies/opioid_guidelines_as_adopted_april-2017_final.pdf> * Hooten M, Thorson D, Bianco J, Bonte B, Clavel Jr A, Hora J, Johnson C, Kirksson E, Noonan MP, Reznikoff C, Schweim K, Wainio J, Walker N. Institute for Clinical Systems Improvement. Pain: Assessment, Non-Opioid Treatment Approaches and Opioid Management. Updated August 2017. <https://www.icsi.org/wp-content/uploads/2019/01/Pain.pdf> * Idaho Department of Health and Welfare, Behavioral Health. (2018). Opioid Needs Assessment- October 2018. Idaho Department of Health and Welfare, Behavioral Health. * Management of acute pain in the patient chronically using opioids. (2018). Retrieved from <https://www.uptodate.com/contents/management-of-acute-pain-in-the-patient-chronically-using-opioids?search=Overview%20of%20the%20treatment%20of%20acute%20pain&source=search_result&selectedTitle=4~150&usage_type=default&display_rank=4> * Manworren, R. (2015). Multimodal Pain Management and the Future of a Personalized Medicine Approach to Pain. AORN Journal, 101(3), 307-318. doi: 10.1016/j.aorn.2014.12.009 * MCCN Opioid Reduction Collaborative- Acute Opioid Management. (2017). Presentation. * Moving Beyond Medications. (2018). Retrieved from <http://www.ihpc.org/wp-content/uploads/MovingBeyondMedications.pdf> * Opioid Overdose | Drug Overdose | CDC Injury Center. (2018). Retrieved from <https://www.cdc.gov/drugoverdose/index.html> * Prescription of Opioids for Acute Pain in Opioid Naive Patients. (2019). Retrieved from <https://www.uptodate.com/contents/prescription-of-opioids-for-acute-pain-in-opioid-naive-patients?search=Overview%20of%20the%20treatment%20of%20acute%20pain&source=search_result&selectedTitle=10~150&usage_type=default&display_rank=10> * Thiels, C., Anderson, S., Ubl, D., Hanson, K., Bergquist, W., & Gray, R. et al. (2017). Wide Variation and Overprescription of Opioids After Elective Surgery. *Annals Of Surgery*, *266*(4), 564-573. doi: 10.1097/sla.0000000000002365 |
|  | **Implementation & Education Items:**  **Implementation:** *(underlined titles are hyperlinks)*   * Addendum 1: Example: [Brief Pain Inventory Example](https://www.mdanderson.org/documents/Departments-and-Divisions/Symptom-Research/BPI-SF_English-24h_Original_SAMPLE.pdf) “To receive the BPI you must place an online order from their website at: [symptomresearch@mdanderson.org](mailto:symptomresearch@mdanderson.org)” * Addendum 2: [Example: Screening Tool for Co-Occurring Mental Health Conditions: Mental Status Assessment](https://www.phqscreeners.com/sites/g/files/g10049256/f/201412/PHQ-9_English.pdf) * Addendum 3: [Example: Screening Tool for Substance Abuse: Opioid Risk Tool](https://www.drugabuse.gov/sites/default/files/files/OpioidRiskTool.pdf) * Addendum 4: Example: [Pain Management Algorithm](https://www.icsi.org/wp-content/uploads/2019/01/Pain.pdf) * Addendum 5: Non-Opioid Treatment Options * Addendum 6: Pain Etiology-Based Treatment Reference Chart   **Supporting Documents:**   * Magazine Stickers: Opioids * Rack Cards: Chronic Pain, Medication Storage, etc. * Standard patient education materials   **Kootenai Care Network Applications**   * Provision of Continuing Education |
|  | **Quality Metrics**:  Pending |
|  | **Quality Plan, Do, Study, Act (PDSA) Plan**:  The Kootenai Care Networkwill be responsible for ongoing review of the literature and for developing necessary modifications to the clinical pathway based on published or local best practices. The guideline will be formally reviewed annually. If any area is in need of improvement, a workgroup will utilize LEAN tools and methodologies to address any issues. |

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| **Point of Contact, Responsible Party:**  Created in collaboration with KCN Pain Workgroup; Pain specialists Jessica Jameson, MD and Scott Magnuson, MD; Anesthesia Committee; Shelly Rutledge, PharmD; and Kootenai Care Network Quality Committee.  **Contact:** Shelley Janke, KCN Director of Quality and Care Management | |
| **Distribution:**  Kootenai Care Network | |
| **Approval By:**  KCN Pain Workgroup  KH Anesthesia Committee  KCN Quality Committee | **Date of Approval:**  04/17/2019  06/11/2019 |
| **Original Date:**  06/2019 | **Revision Dates:** |

**Addendum 5: Outpatient Non-Opioid Pain Management Options**

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| **Oral, Injectable, and Topical Pain Management Options** | | | | | |
| **Oral Medications** | | **Injectable Medications** | | **Topical Medications** | |
| Scheduled: Acetaminophen every 4 hours (Max 4000mg per day) | | Steroid injections | | Topical NSAIDS  (diclofenac gel) | |
| Scheduled: Rotation of Acetaminophen and Ibuprofen Every 3 Hours | | Epidural steroids | | Topical capsaicin, salicylates, methol, camphor, etc. (Tiger Balm, SalonPas, Aspercreme, Biofreeze) | |
| TCA’s: Desipramine, Nortriptyline, Amitriptyline | |  | | Lidocaine Patches, Gel, or Cream | |
| SNRI’s: duloxetine, venlafaxine, desvenlafaxine, milnacipran | |  | | Nitroglycerin patches  (for chronic tendinitis) | |
| Anticonvulsants: gabapentin, pregabalin, carbamazepine | |  | | Essential Oils | |
| Muscle Relaxants/Antispasmodics: baclofen, cyclobenzaprine, tizanidine, carisoprodol, metaxalone, methocarbamol | |  | | Diltiazem cream  (for rectal fissures/spasms) | |
| Tramadol | |  | |  | |
| **Alternative Pain Treatment Options** | | | | | | |
| **Lifestyle Modifications that can Affect Pain Management** | **Therapy Options** | | **Pain** **Counseling and Neurological Treatment Options** | | **Alternative/Complementary Therapy Options** | |
| Address and stabilize sleep, psychological (depression), and weight conditions | Physical Therapy  Spinal Cord Stimulation  TENS | | Cognitive Behavioral Therapy | | Chiropractic | |
| Smoking cessation | Occupational Therapy | | Environmental Condition Modifications | | Acupuncture | |
| Blood Glucose Control | Osteopathic Manipulative Treatment (OMT) | | Biofeedback | | Reflexology | |
| Body Movement Therapy:  Exercise/Yoga | Fascial Distortion Model | | Breathing Exercises  Distraction Techniques  Imagery | | Massage Therapy | |
| Nutrition: Identify triggers; eliminate inflammatory foods (wheat, dairy, gluten, soy, processed foods) | Nerve Ending Ablation | | Music Therapy | | Hot/Cold Therapy | |

References: CDC Chronic Pain Management; Bonica’s Management of Pain 4th edition; Mayo Clinic Acute and Chronic Pain; Academy of Multidisciplinary Pain Management; Institute for Clinical Systems Improvement; UpToDate Acute and Chronic Pain Tx Non-Cancer

Original: 01/2019

**Addendum 6: Pain Etiology-Based Treatment Reference Chart**

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| **ACUTE Pain Mechanism-Based Treatment Options** | | |
| **Neuropathic Pain** | **Alternative Treatment Options** | **Medication Options** |
| Post herpetic neuralgia | Soft diet  Cold Packs alternating with moist heat | Topical agents  NSAIDs  Antidepressants  Anticonvulsants |
| **Musculoskeletal Pain** | **Alternative Treatment Options** | **Medication Options** |
| Acute musculoskeletal pain | Exercise/movement  Physical Therapy | NSAIDs  Acetaminophen  Topical Agents  Muscle Relaxants |
| **Inflammatory Pain** | **Alternative Treatment Options** | **Medication Options** |
| Tendonitis | Physical therapy  Iontophoresis  Intra-articular injection | NSAIDs  Glucocorticosteroids  Topical Agents |
| Dental/Orofacial | Alternate moist heat and cold therapies  Dental consultation | NSAIDs and Acetaminophen  Topical anesthetic rinse  Chlorhexidine rinse  Bupivacaine injection |
| Temporomandibular Disorder | Soft diet  Cold packs alternating with moist heat  Physical therapy  Phonoophoresis  Dental appliances  Manual therapy  Cognitive behavioral therapy  Biofeedback  Hypnosis | NSAIDs  Anticonvulsants |
| **Visceral Pain** | **Alternative Treatment Options** | **Medication Options** |
| Headache/ Migraine | Hot/Cold Therapies  Essential Oils  Nutraceuticals | **Preventative Medications**  Propranolol  Tricyclics  Anticonvulsants  **Treatment Medications**:  Triptans  NSAIDs  Acetaminophen  Aspirin  Caffeine  Ergot derivatives |
| Non-Cardiac Chest Pain | GERD:  Dietary Modifications  Non-Cardiac Chest Pain:  Cognitive Therapy  Hypnotherapy | GERD:  H2 receptor antagonists  PPI  Non-Cardiac Chest Pain:  Tricyclics  SSRIs  Trazodone |
| Abdominal Pain | Lifestyle Modifications  Dietary Modifications | Treat underlying comorbidity, if present: stress, regulate bowel movements, psychological- depression, anxiety |
| Pelvic Pain | Acupuncture  TENS  Chiropractic  Osteopathic manipulations | Treat underlying psychiatric condition, if present |
| **Regional Pain** | **Alternative Treatment Options** | **Medication Options** |
| Dental Pain | Mouthwashes  Desensitizing toothpaste | NSAIDs  Non-opiate analgesics |
| Facial Pain | TMJ:  NSAID  Nonopiate analgesic  Physical Therapy | Sinus Pain:  Decongestants  NSAIDs  Topic agents  Periocular Pain:  NSAIDs  Nonopiate analgesics  Topical corticosteroids  Botox  Periauricular Pain:  NSAIDs  Nonopiate analgesics  Topical corticosteroids |
| Neck and Arm Pain | Physical Therapy  Chiropractic |  |
| Lower Extremity Pain | Foot:  Arch support  Plantar inserts  Orthotic shoe inserts  Supportive shoes  Physical Therapy  TENS | NSAIDs  Acetaminophen  Nonopioid analgesics |
| Lower Back Pain- Acute | Lifestyle Modifications  TENS  Physical Therapy | NSAIDs  Acetaminophen |
| **Special Populations** | **Alternative Treatment Options** | **Medication Options** |
| Elderly |  | NSAID + PPI  Nortriptyline  Duloxetine  Gabapentin or pregabalin |

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| **Chronic Pain Mechanism-Based Treatment Options** | | |
| **Neuropathic Pain** | **Alternative Treatment Options** | **Medication Options** |
| Diabetic Neuropathy |  | Anticonvulsants  Antidepressants  Topical Agents |
| Trigeminal Neuralgia | Soft diet  Cold packs alternating with moist heat | Anticonvulsants  Antidepressants  NSAIDs  Botox |
| Nerve compression/radicular pain | Physical rehabilitation  Cognitive behavioral therapy  Corsets and braces  Therapeutic injections  Interventional procures | Anticonvulsants  Antidepressants  Topical Agents |
| Chronic Neuropathy | TENS | Antidepressants  Anticonvulsants  Topical agents |
| Post Spinal Cord Injury | TENS  Physical rehabilitation | NSAIDs  Baclofen  Opioids  Anticonvulsants Antidepressants  NMDA antagonist |
| **Musculoskeletal Pain** | **Alternative Treatment Options** | **Medication Options** |
| Diffuse non-specific myalgias/ Complex regional pain syndrome | Physical Therapy Biopsychosocial interdisciplinary team approach  Cognitive behavioral therapy  Graded exercise  Massage Therapy | Topical agents  Acetaminophen  Antidepressants  Anticonvulsants |
| Chronic musculoskeletal pain | Physical Therapy  Mindfulness-based stress reduction  CBT  Hypnosis  Yoga/Tai-chi  Acupuncture  Healing touch  Aquatic therapy  Exercise  Manual therapies (neck & back pain)  TENS  Ultrasound | Acetaminophen  NSAIDs  Topical Agents |
| Fibromyalgia | Physical Therapy  Graded aerobic exercise  Heated aquatic therapy  Relaxation  Interdisciplinary management  CBT  Hypnosis  Healing touch/Qi-gong massage | Anticonvulsants  Antidepressants |
| **Inflammatory Pain** | **Alternative Treatment Options** | **Medication Options** |
| Arthritis, all types | Physical Therapy  Exercise  Aquatic therapy  Hypnosis  Intra-articular injection | Acetaminophen  NSAIDs  Glucocorticosteroids  Topical agents  DMARDs |
| Gout | Dietary modifications | NSAIDs  Antihyperuricemic agents |
| **Joint Pain** | **Alternative Treatment Options** | **Medication Options** |
| Osteoporosis | Exercise  Aquatic therapy  Intra-articular injection | Calcium + Vitamin D  Bisphosphonates  Acetaminophen  NSAIDs |
| **Visceral Pain** | **Alternative Treatment Options** | **Medication Options** |
| Headache/ Migraine | Hot/Cold Therapies  Essential Oils  Assess for TMJ | **Preventative Medications**  propranolol  **Treatment Medications**:  Triptans  NSAIDs  Acetaminophen |
| Abdominal Pain | Psychotherapy  Cognitive Behavioral Therapy  Hypnotherapy | IBS:  Tricyclic Antidepressants  SSRIs  Antispasmodics |
| Pelvic Pain | Physical Therapy  Acupuncture  TENS  Chiropractic  Osteopathic manipulations | Treat underlying psychiatric condition, if present |
| **Regional Pain** | **Alternative Treatment Options** | **Medication Options** |
| Dental Pain | Mouthwashes  Desensitizing toothpaste | NSAIDs  Non-opiate analgesics |
| Facial Pain | TMJ:  NSAID  Nonopiate analgesic  Physical Therapy | Sinus Pain:  Decongestants  NSAIDs  Topic agents  Periocular Pain:  NSAIDs  Nonopiate analgesics  Topical corticosteroids  Botox  Periauricular Pain:  NSAIDs  Nonopiate analgesics  Topical corticosteroids |
| Neck and Arm Pain | Physical Therapy  Chiropractic |  |
| Lower Extremity Pain | Foot:  Arch support  Plantar inserts  Orthotic shoe inserts  Supportive shoes  Physical Therapy  TENS | NSAIDs  Acetaminophen  Nonopioid analgesics |
| Lower Back Pain- Chronic | Massage Therapy  TENS  Exercise  Physical Therapy  Weight Loss  Chiropractic  Acupuncture  Lifestyle Modifications  Interventional Therapies | NSAIDs  Acetaminophen  Non-opioids  Muscle Relaxants  SSRI  Topical Analgesics |
| Lower Back Pain- Failed Back Surgery Syndrome | Cognitive Behavioral Therapy  Physical Therapy | Treat underlying psychiatric condition, if present  Corticosteroid Injection |
| **Special Populations** | **Alternative Treatment Options** | **Medication Options** |
| Elderly |  | NSAID + PPI  Nortriptyline  Duloxetine  Gabapentin or pregabalin |
| **Opioid-Induced Pain** | **Alternative Treatment Options** | **Medication Options** |
| Withdrawal | Develop opioid taper schedule | Opioid  Buprenorphine analgesic or methadone with appropriate license |
| Hyperalgesia | Opioid reduction  Opioid rotation  Adjuvant medication  Hypnosis | Anticonvulsants  Antidepressants |
| Tolerance | Assess appropriateness of opioid medication  Adjuvant medication  Opioid rotation | Anticonvulsants  Antidepressants  Muscle relaxant for flare-up |

Shelly Rutledge, PharmD, INHC | Reviewed 01/2019

Reference: Bonica’s Manangement of Pain 4th Edition. Fishman, Ballantyne, Rathmell

UpToDate; Mayo Clinic