Chronic Pain Management in the Elderly

A practical rough and tumble guide for busy healthcare professionals

Abhilash Desai, M.D.
Geriatric Psychiatrist
Specialty: Brain Health and Wellness, Dementia prevention, Dementias, Long-term care psychiatry, Opioid use disorder, Chronic pain management without opioids
idahomemorycenter@icloud.com

Faith Galliano Desai, Ph.D.
Psychologist
drfaithgallianodesai@icloud.com

413 N. Allumbaugh Street, Ste#101
Boise, ID 83704

One Day Mindfulness Millionaire: A light-hearted primer for the uninitiated.
Abhilash Desai and Faith Galliano Desai
Book available at store.bookbaby.com

5-8-25

Each of us literally chooses, by his way of attending to things, what sort of a universe he shall appear to himself to inhabit.

- William James

Table of Contents

42. –
43. –
44. Buprenorphine in Post-Acute and Long-Term Care (e.g., nursing homes)
45. Informed consent for use of opioids for chronic non-cancer pain
46. Checklist to complete prior to opioid prescription
47. Legacy Patients: “Inherited” patients on long-term opioid therapy (LTOT)
48. –
49. Tramadont
50. –
51. Opioid Tramadol MMEs
52. Red flags for Opioid misuse, Opioid use disorder
53. Opioid induced hyperalgesia (OIH)
54. Medical cannabis
55. Resources
56. Medical poem: Opioid crisis
57. Medical poem: Opioid withdrawal
58. Aging is a Privilege

Confronting Reality – Atul Gawande MD and Rainer Maria Rilke

We're caught in a transitional phase. However miserable the old system has been, we are all experts at it. We know the dance moves. With this new way, in which we together try to figure out how to face mortality and preserve the fiber of a meaningful life with its loyalties and individuality, we are plodding novices. We are going through a societal learning curve, one person at a time.

Book by Dr. Gawande: Being Mortal – Medicine and What Matters in the end.

My take: We are all experts at the old system of managing chronic pain with opioids and other interventions that cause more harm than good, especially in the elderly. We know the dance moves. With this new way (mentioned in this guide, a holistic, mindful and humane approach, avoiding / minimizing use of opioids for chronic non-cancer pain), we are plodding novices.

Rainer Maria Rilke

Ultimately, and precisely in the deepest and most important matters, we are unspeakably alone; and many things must happen, many things must go right, a whole constellation of events must be fulfilled, for one human being to successfully advise or help another.

Introduction

Chronic pain is common in the elderly and causes severe distress, disability, suffering, depression and suicidal ideation. Many suicides in the elderly can be directly linked to poor management of chronic pain.

Chronic pain in the elderly is often treated with opioids.

Opioids are high risk medications that are often used inappropriately / unnecessarily and often cause more harm than good.

Key dangerous adverse effects and complications related to use of opioids in the elderly include but not limited to:

- Overdose death
- Overdose complications (e.g., respiratory depression and hypoxic brain damage)
- Opioid use disorder
- Falls and fractures
- Delirium
- Depression
- Opioid endocrinopathy
- Opioid induced hyperalgesia (OIH)
- Intestinal obstruction

Our hope with this eBook is to provide education and guidance on all the things we can do to reduce chronic pain and improve functioning in daily living so that the elder person with chronic pain can live their best life possible.

Chronic Pain

- Complex experience with physical, emotional, cognitive and spiritual/existential dimensions.
- Pain on most days or every day for 3 months or more.
- Up to one in five adults (up to 50% older adults; up to 75% with advanced cancer) may have chronic pain.
- 4.5 million elderly have high-impact (causing significant disability) chronic pain (6 months.

Primary chronic pain: main or only complaints and a disease in its own right.

Secondary chronic pain: symptom of an underlying disease.

Pain Assessment:

- Comprehensive assessment (ideally part of Comprehensive Geriatric Assessment [CGA]): Goal is to identify all specific pain sources.
- Pain scales (e.g., numeral rating scale and verbal descriptors [also okay in mild-moderate cognitively impaired individuals], Pain In Advanced Dementia [PAINAD] and Doloplus-2 recommended for severe cognitive impairment

Pain Systems:

- Evolutionary perspective: pain is a strong motivational signal (indicates threat) with negative affective connotations, while pain relief can be conceptualized as a form of relief and reward, and therefore represent potent factors directing behavior.
- Higher attention and perceiving/framing it as "high-grade threat": greater catastrophic reactions, pain sensitivity, and avoidance behaviors.
- Avoidance behaviors, once acquired, are notoriously persistent and maintain pain-related fears.
- Distraction and reframing it as "low-grade threat": reduced intensity of pain experienced

References:

1. Hobelmann and Clark. Management of chronic pain. Kaplan and Sadock's Comprehensive Textbook of Psychiatry 10th Edition, 2017.
2. Gazelka et al. Opioids adults: Indications, Prescribing, Complications, and Alternative Therapies for Primary Care. Concise Review for Clinicians. Mayo Clinic Proceedings 2020; 95(4):793-800.
3. McCracken and Vowles. New generation psychological treatment in chronic pain. BMJ 2022.
4. Jon-Kar Zubieta. Pain systems: interface with affective and motivational mechanisms. Kaplan and Sadock's Comprehensive Textbook of Psychiatry 10th Edition. 2017

Cycles of Pain

- Injury, surgery, inflammation leads to
- Peripheral sensitization and then central sensitization leading to
- Pain and Pain cognitive process leading to
- Depression and anxiety leading to cortical reorganization leading to
- Avoidance and disability leading to
- Muscle spasm and deconditioning leading to
- Further injury and inflammation ☹

Pain Tracking with Technology

- Pain
- Anxiety
- Depression
- Sleep
- Physical activity
- Breathing

References:

1. Darnall BD. Pain and Psychological Factors. Chapter 6 in Practical Strategies in Geriatric Mental Health. Editors: Dunn LB, Cassidy-Eagle EL. American Psychiatric Association Publishing 2020.
2. Sonnenreich and Geisler. Challenges and solutions in reducing opioid misuse and abuse. Pharmacy and Therapeutics 2017;42(1):47-48

Basics of Chronic Pain Management in the Elderly

1. Three Pillars of Chronic Disease Management (includes Chronic Pain)
    a. Self-management
    b. Peer support and peer-led groups
    c. Easy access to experts
2. STAR approach: Safety, Team input, Action plan, Response to treatment
    a. Safety: assess for risk of opioid overdose and opioid use disorder
    b. Team input: involve not only the patient but also their support system (e.g., family member, care partner), and other healthcare professionals in comprehensive assessment and management
    c. Action plan: create a practical biopsychosocial spiritual pain management care plan
    d. Response to treatment: implement the care plan, assess response to treatment and modify the care plan based on the response.
3. MMSE (acronym)
    a. Medical causes: assess for all medical conditions that may be causing pain as there are typically two or more causes of chronic pain in the elderly (e.g., arthritis plus diabetic neuropathy). Occupational therapy and physical therapy referrals are very important.
    b. Medication induced pain: opioid induced analgesia and other medication induced adverse effects (e.g., headaches, constipation leading to abdominal pain, drug-drug interactions) are common and need to be addressed with rational de-prescribing.
    c. Social factors: addressing social determinants of health (e.g., financial stress, loneliness, disconnection from the community) is crucial.
    d. Environmental factors: Both interpersonal environment (adequate social support and absence of invalidating interpersonal interactions) and physical environment (includes reducing fall risk at home) are very important.
4. Biopsychosocial spiritual wellness care plan
    a. Biological: medical assessment and workup, rational de-prescribing and judicious prescribing
    b. Psychological: cognitive behavioral therapy for pain
    c. Social: educating family members and guiding them in how best to support the elderly with chronic pain
    d. Spiritual: engagement in meaningful activities that give them purpose and connecting them to their spiritual / religious communities

Chronic Pain Self-Management

Pain diary

Attitude - positive
Behavior - proactive
Compassion - towards self
Dialogue - with self and support systems

Pain triggers tracking and avoiding

Pain relievers utilizing and optimizing

Celebrating small successes

Daily PCAL – Pain Coping Activity Log example

Date:

Pain coping activity	Time done	Challenges
5 min positive affirmations	8am	
Taking medications	9am	
Applying topical analgesics	9.05am	
Anti-inflammatory breakfast	9.15am	
Mindful walking	9.30am	
5 min positive affirmations	10pm	

🙏

Common Pain Triggers

Pro-inflammatory diet
Prolonged sitting
Posture
Stress - strong negative emotions
Empty time
Allergens
Insomnia
ANTs - automatic negative thoughts
Pollution - dust
Odors - headaches
Sunlight - headaches
WISPing - wallowing in self pity
Medications
Add your own:

Clinical implications: monitor and avoid these triggers

Common Pain Relievers

Anti-inflammatory foods and fluids
Physical activity and rest
Posture training
Stretching
Strength Training
Splinting - Support
Yoga (including laughter yoga)
Tai chi
Meditation
Medication (including topicals)
Massage (including rollers)
Acupuncture - Acupressure
Nature
Venting to someone who is an empathic and good listener
Social support
Relaxation exercises
Breath retraining
Cognitive positive reappraisal - CPR
Acceptance - Commitment
Awe enhancement
Positive emotions - laughter, gratitude, awe, silliness, calm
Art - creative engagement
Humor therapy / Laughter therapy
Nerding out
Self-hypnosis
Visualization exercises
Add your own:

Non-Opioid Interventions for Chronic Non-Cancer Pain Management

Please make a check mark if you have tried this option*

__ Cognitive behavioral therapy for pain (CBT-pain includes identifying and avoiding triggers)
__ Relaxation Response based interventions: relaxation exercises, activating vagus nerve, biofeedback, music therapy, laughter therapy, Tai Chi, Yoga, support groups, balneotherapy, virtual-reality based therapies
__ Acceptance commitment therapy (ACT)
__ Mindfulness-Based Stress Reduction (MBSR)
__ Education about risks of opioids, role of stress in pain perception and teaching pain self-management (includes family / support system education)
__ Exercise therapy (e.g., stretching, strengthening exercises, physical therapy, posture training, activity pacing)
__ Weight loss interventions
__ Hot – Cold remedies (e.g., superficial heat / deep-heat therapies, cold-based interventions / cryotherapy)
__ Touch-based interventions (e.g., Acupuncture, Acupressure, Massage)
__ Topical analgesics (e.g., camphor, menthol, capsaicin, CBD, THC, methylsalycylate, diclofenac, lidocaine, glyceryl trinitrate spray [diabetic neuropathy], Citrullus colocynthis [diabetic neuropathy], lavender, magnesium [RLS, insomnia], peppermint oil [tension headache])
__ Acetaminophen
__ Antidepressants – SNRIs (serotonin norepinephrine reuptake inhibitors) (e.g., duloxetine, venlafaxine, desvenlafaxine, milnacipran, levomilnacipran) and tricyclic antidepressants (e.g., low dose amitriptyline, nortriptyline) (avoid TCAs in elderly)
__ Alpha-2 Delta Ligands / Gabapentinoids (e.g., gabapentin, pregabalin)
__ Sodium channel blockers (e.g., oxcarbazepine, lamotrigine, carbamazepine)
__ Anti-inflammatory agents (e.g., celecoxib, naproxen, meloxicam) (avoid in elderly)
__ Muscle relaxants (e.g., baclofen, baclofen pump, cyclobenzaprine)
__ Medical cannabis (high risk medication although risks in general lower than opioids)
__ Other options (e.g., oral steroids, osteopathic approaches, family intervention, calcitonin, TENS, chiropractic therapy, Mediterranean diet, Cupping therapy, lifestyle modification, work modification)
__ Multimodal rehabilitation
__ Interventional Pain Management** (e.g., steroid injections, radiofrequency ablation, spinal cord stimulation, epidural steroid injections, vertebral augmentation, targeted peripheral nerve injections and neuromodulation [occipital, ilioinguinal, genitofemoral, intercostal, lateral femoral cutaneous, pudendal, etc.], sympathetic nerve blocks / neurolysis [celiac, lumbar sympathetic, superior hypogastric, etc.]) and botulinum toxin injections

*Also address co-occurring mental health disorders (e.g., major depression, PTSD, addiction)

**Refer to interventional pain management specialist

Resources:

1. Duggirala R, Khushalani S, Palmer T, Brandt N, **Desai A**. Screening for and Management of Opioid Use Disorder in Older Adults in Primary Care. *Clin Geriatr Med*. 2021;38(1):23-38. doi:10.1016/j.cger.2021.07.001 (I am the corresponding author. Email me to request a PDF of this paper to be used for educational purposes only)
2. AMDA – The Society for Post-Acute and Long-Term Care Medicine. Pain in the Post-Acute and Long-Term Care Setting Clinical Practice Guideline. Columbia, MD: AMDA 2021. This document is not free but well worth the money. It has excellent detailed information on all aspects of pain prevention, assessment and evidence-based management with a host of non-opioid alternatives.
3. Pain Management in Older Adults without Opioids and Tramadol: The ATMAN approach. 90-minute Presentation as part of ECHO program through University of Idaho: https://youtu.be/wlEnrRirsL4
4. *Free high*-quality apps for relaxation exercises / meditation: Healthy Minds Program, Cleveland Clinic Wellness CCW Mindful Moments, UCLS Mindful, Plum Village Zen Meditation, CBTi Coach, PTSD coach.
5. *Palouse Mindfulness offers free online MBSR course / self-paced training*. https://palousemindfulness.com
6. Price R, Smith D, Franklin G, et al. Oral and topical treatment of painful diabetic polyneuropathy practice guideline update. Published online December 27, 2021.

Cognitive Behavioral Therapy (CBT) for Pain

Cognitive Behavior Therapy – Pain (CBT-P) has the best evidence amongst all nonpharmacological interventions for treatment of chronic pain.

Referral to a pain psychologist strongly recommended for moderate to severe chronic pain.

Cognitive Therapy addresses unhelpful / counterproductive ABCs [attitudes, beliefs, coping styles] and automatic negative thoughts [ANTs ☺], catastrophizing ["I will never get better," "This pain will never go away," Excessive fear that movement or activity will worsen pain].

Behavioral Therapy teaches relaxation skills and other behaviors to address fears and phobias.

Relaxation training (e.g., deep breathing exercises, progressive muscle relaxation, relaxation response, guided imagery).

Reinforcing positive health behaviors and positive activities.

Reframing

References: (1) Kurt Kroenke. Treatment of Chronic Pain. American Psychiatric Association Publishing Textbook of Psychopharmacology. 5th Edition 2017. (2) Darnall BD. Pain and Psychological Factors. Chapter 6 in Practical Strategies in Geriatric Mental Health. Editors: Dunn LB, Cassidy-Eagle EL. American Psychiatric Association Publishing 2020.

Acceptance Commitment Therapy (ACT) for Pain

- ACT is considered “third wave” CBT.
- 25 randomized controlled trials for treatment of chronic pain.

Reference: McCracken and Vowles. New generation psychological treatment in chronic pain. BMJ 2022.

Interventional Pain Management: Common Interventions

- Intraarticular glucocorticoids
- Nerve blocks
- Trigger point injections
- Baclofen pump
- Ultrasound or fluoroscopy guided interventions

Reference: Kurt Kroenke. Treatment of Chronic Pain. American Psychiatric Association Publishing Textbook of Psychopharmacology. 5th Edition 2017.

Stepwise Pharmacotherapy Approach for Chronic Pain

- Step 1: Acetaminophen, Topical analgesics, Non-pharmacological interventions
- Step 2: Duloxetine, Gabapentin, Pregabalin, Interventional pain management
- Step 3: Nortriptyline, Cox-2 inhibitors, NSAIDs
- Step 4: Opioids (includes tramadol)

Reference: Desai and Grossberg: Geriatric Psychiatry. Chapter in Pathy Textbook of Principles and Practice of Geriatric Medicine. 2023.

Four Key Non-Pharmacological Interventions for Chronic Pain

- Physical therapy
- Cognitive behavior therapy for pain (CBT-pain)
- Exercise therapy
- Mindfulness-based therapies (includes Yoga, Tai Chi, MBSR)

Reference: Agency for Healthcare Research and Policy. Noninvasive Nonpharmacological Treatment for Chronic Pain: A Systematic Review Update. 2020.

Efficacy of antidepressants for chronic back pain and osteoarthritis

- "some people might choose to a try that option for a one in 10 chance of a worthwhile reduction in pain after three months"
    - Ferreira GE, McLachlan AJ, Lin C-WC, et al. Efficacy and safety of antidepressants for the treatment of back pain and osteoarthritis: Systematic review and meta-analysis. 2021;372:m4825
- "Overall, however, drug treatments are largely ineffective for back pain and osteoarthritis and have the potential for serious harm. We need to work harder to help people with these disorders to live better with their pain without recourse to the prescription pad."
    - Underwood and Tysal. Antidepressants for musculoskeletal pain. BMJ 2021; Jan 20

Muscle relaxants

- Baclofen for muscle spasms (e.g., multiple sclerosis)
- Cyclobenzaprine (e.g., fibromyalgia)
- Carisoprodol (avoid)
- No controlled studies in the elderly

My take: often over used, cause more harm (especially cognitive impairment, confusion, dizziness and falls related serious injuries) than good, use should be judicious and if used, given for short time (less than four weeks).

Benzodiazepines

- Often used for pain related to muscle spasms (diazepam is used most commonly).
- High risk due to risk of falls and fractures/head injuries, delirium, cognitive impairment.
- Minimize concomitant use with opioids due to risk of respiratory suppression

Reference: Ali et al. Managing chronic pain in the elderly: An overview of recent therapeutic advancements. Cureus 10(9). Sept 13, 2018.

Topical Analgesics

- Camphor
- Menthol
- Capsaicin (caution: use gloves to apply as it could burn and injure eyes if hands are used without gloves)
- CBD (cannabidiol)
- THC (tetrahydrocannabinol, cannabis, active ingredient in Marijuana plant)
- Methyl salicylate
- Diclofenac (NSAID – nonsteroidal anti-inflammatory)
- Lidocaine (anesthetic)
- Glyceryl trinitrate spray [diabetic neuropathy]
- Citrullus colocynthis [diabetic neuropathy]
- Lavender
- Magnesium (RLS, insomnia)
- Peppermint oil (tension headache)

OTC: Salonpas (lidocaine), Icy Hot (menthol plus methyl salicylate [Wintergreen oil]), Bengay (menthol plus methyl salicylate), Aspercreme (lidocaine), Voltaren (diclofenac), Biofreeze (menthol)

Namaste

Cannabidiol (CBD) and Tetrahydrocannabinol (THC)

Research support for both is weak regarding analgesia effects.

CBD: Trial of 5-10mg per day to start with and some patients may need as high as 100-200mg daily. Some of my patients have reported improved anxiety, insomnia and pain with use of CBD without THC.

THC: Dose unclear as there is no standardization of the product. In older adults, the risks are high for delirium, agitation, paranoia and negative drug-drug interactions.

THC use is not legal in Idaho.

Medical cannabis is legal in many states.

In several states, recreational use of cannabis is legal.

Suggested reading:
Lynch, M. E., & Campbell, F. (2011). Cannabinoids for treatment of chronic non- cancer pain: A systematic review of randomized trials. British Journal of Clinical Pharmacology, 72(5), 735-744.

Address Comorbidity

- Major depression
- Complicated grief
- Generalized anxiety disorder
- Trauma-related symptoms
- Kinesiophobia [fear of movement])
- Addictions

References:

- Darnall BD. Pain and Psychological Factors. Chapter 6 in Practical Strategies in Geriatric Mental Health. Editors: Dunn LB, Cassidy-Eagle EL. American Psychiatric Association Publishing 2020.
- Kurt Kroenke. Treatment of Chronic Pain. American Psychiatric Association Publishing Textbook of Psychopharmacology. 5th Edition 2017

Placebos and Chronic Pain

- There are 7 ways placebos are used in clinical practice and research for pain management.
- Placebo effects are evidence-based, clinically-relevant and potentially ethical tools for relieving chronic pain.

Reference: Kaptchuk et al. Placebos in chronic pain: evidence, theory, ethics, and use in clinical practice. BMJ 2020.

Multimodal Multi-disciplinary Pain Management

Recommended for all complex cases

- Polypharmacy (3 or more CNS active medications)
- Opioids plus benzodiazepines
- Opioids plus gabapentinoids
- Opioids plus sedative-hypnotics
- Presence of addiction
- Presence of trauma-related disorders
- Elderly
- Treatment resistant cases

Reference: Sheikh F et al. Management of chronic pain in nursing homes: Navigating challenges to improve person centered care. JAMDA 2021;1-7.

Pain Management Team

- Patient and Family
- Primary care providers
- Psychiatrist
- Pain psychologist
- Pharmacist
- Physical therapist
- Other healthcare professionals (e.g., acupuncturist, massage therapist)

Fibromyalgia Rx

Treatment

Education
Self-management training
Graded exercise therapy (with rest in between)
Relaxation training (using high quality free apps – Cleveland Clinic Wellness CCW Mindful moments; UCLA Mindful; PTSD Coach; CBTi Coach)
Cognitive Behavior Therapy for Pain
Acceptance Commitment Therapy
Mindfulness Training and Practice
Support groups
Medications (avoid opioids):

- SNRIs (duloxetine, desvenlafaxine, milnacipran, levomilnacipran)
- Alpha 2 Delta ligands (gabapentin, pregabalin)
- Combination therapy (one SNRI and one Alpha 2 Delta ligand)

References and Resources:

1. Clauw DJ. Fibromyalgia: A clinical review. JAMA 2014; 311(15):1547-1555.
2. Stahl's Essential Psychopharmacology. Fifth Edition. 2021. Chapter 9: Chronic Pain and its treatment.
3. Siracasu R et al. Fibromyalgia: pathogenesis, mechanisms, diagnosis, and treatment options update. International Journal of Molecular Sciences 2021; 22:3891.

Chronic low back pain

- Exercise therapy and behavioral therapy represent first line options.
- Medications considered second-line options

Reference: Chiarotto and Koes. Nonspecific low back pain. NEJM 2022; 386:1732-40.

Osteoarthritis of Knee: the ATMAN approach

Osteoarthritis of the knee is often inappropriately managed (e.g., use of opioids, tramadol) in older adults, especially in the long-term care populations.

We recommend the ATMAN approach.

A: Activity (exercise), Acupuncture-Acupressure, Anti-inflammatory diet
T: Therapy – aquatic therapy, physical therapy, cognitive behavioral therapy for pain (CBT-pain; includes self-management self-efficacy pain-coping training programs)
M: Mindfulness-based interventions (includes Tai Chi, Yoga and other movement-based mindfulness interventions, meditation)
A: Antidepressants (especially SNRIs such as duloxetine), Articular glucocorticoids (knee injections)
N: NSAIDS (topical, oral, non-selective NSAIDS, Cox-2 inhibitors), Nutrition (e.g., balanced diet and weight-loss if patient overweight or has obesity)

- Topical NSAIDS (methyl salicylate, diclofenac) are first line
- Oral NSAIDs
    - Daily use for as short a time as possible, then use as needed
    - Cox-2 inhibitors preferred in patients with gastrointestinal conditions
    - Non-selective NSAIDS may need to be used along with PPIs to reduce risk of bleeding
    - Avoid oral NSAIDS in patients with heart disease (chronic NSAID use associated with increased risk of heart attacks) and renal disease (due to possibly vasoconstriction, NSAID use can cause renal damage)
    - Oral NSAIDs carry significant adverse drug-drug interaction risk (e.g., increased risk of bleeding if used with SSRI).

Step 1: Multimodal approach: topical NSAIDs, exercise, meditation, aquatic therapy, anti-inflammatory balanced diet, acupuncture-acupressure
Step 2: if inadequate response – add CBT-pain, physical therapy
Step 3: if inadequate response – add intraarticular glucocorticoids or duloxetine
Step 4: if inadequate response – add duloxetine or intraarticular glucocorticoids

Note: acetaminophen has not been shown to be effective but may be tried for mild pain. Glucosamine-Chondroitin has not been shown to be effective but may be considered. Intraarticular glucocorticoids effective for short-term relief (e.g., few weeks) and may be considered to manage upcoming life events (e.g., travel, wedding – dancing).

Resource:

1. Sharma L. Osteoarthritis of the knee. NEJM 2021; 384:51-59.

Duloxetine uses in the elderly

Mechanism of action: SNRI

Indications:

- Major depression
- Generalized anxiety disorder
- Diabetic neuropathy
- Chronic back pain
- Fibromyalgia
- Osteoarthritis of the knee (chronic pain)
- Stress urinary incontinence (approved in Europe)

Dosage:

- Initial: 30 mg daily with food (taking with food reduces nausea, improves absorption by 10%). In elderly who are more vulnerable to adverse effects (e.g., frail, old-old [age 90 and older], patients with GFR 30-60, elderly with severe anxiety), may need to start at 20mg after food.
- Increase to 60mg (or 30mg twice daily with food) as clinically indicated. In frail, old-old (age 85 and older), and in patients with GFR 30-60, increase to 30mg or 40mg daily (20mg twice daily). Wait for at least one week before increasing the dose. In patients with anxiety disorder, wait for at least 2 weeks before increasing the dose.
- Average therapeutic dose: 60 mg (lower [20-40mg] in patients with liver and kidney disease). May be given as 30mg twice daily to improve tolerance.
- Maximum dose in adults: 120mg (in elderly, maximum dose unclear – perhaps 60mg)

Relative contraindications:

- Known hypersensitivity
- ESRD or GFR less than 10 (some experts suggest GFR less than 30)
- Bipolar mania / hypomania
- Child Pugh Class C Liver disease

Adverse effects: nausea, vomiting, diarrhea, constipation, dizziness, insomnia, somnolence, headaches, hyponatremia, sexual dysfunction (note: adverse effects may manifest as agitation in patients with advanced dementia). It may worsen anxiety initially in patients with underlying anxiety disorder. High levels (checking for levels not available at this point) may cause anxiety, irritability and agitation. Increased risk of falls in elderly (all antidepressants increase risk of falls in the elderly). Slight elevation in systolic blood pressure at high doses in some patients. Discontinuation syndrome if stopped abruptly. Half-life 12 hours and it takes 3 days for steady state, so taper over 7-14 days (unless duloxetine is causing significant adverse effects).

Renal and Hepatic Disease:
Use lower initial doses (20mg) and lower final doses (20-40mg) in patients with liver disease and renal disease. Monitor GFR. Reduce dosage if GFR lower than 60. If dose is not reduced, duloxetine may cause anxiety, irritability, and agitation besides other adverse effects.

Drug-drug interactions:
Inhibitors of 1A2 (e.g., ciprofloxacin) increases levels and thus, adverse effects.
Inhibitors of 2D6 (e.g., bupropion, paroxetine, diphenhydramine, fluoxetine) increases levels of duloxetine and thus risk of adverse effects.
Serotonin syndrome risk if used along with tramadol, SSRIs and some other meds.
Seizure risk if used along with tramadol

Therapeutic trial duration:

- For depression: 4 weeks on therapeutic dose (need to see some improvement at least). Maximum benefits may take longer time.
- For anxiety: 6 weeks on therapeutic dose (need to see some improvement at least). Maximum benefits may take longer time.

Please be diligent in discontinuing duloxetine if no benefit or if adverse effects more than benefits. NNT is 5 or more, meaning that many patients may not benefit from a therapeutic trial.

Resources:

1. Norris and Blier. Chapter 20. Duloxetine, milnacipran, and levomilnacipran. *The American Psychiatric Association Publishing Textbook of Psychopharmacology*. Fifth Edition. 2017.
2. Cleveland Clinic. https://www.clevelandclinicmeded.com/medicalpubs/pharmacy/septoct2004/duloxetine.htm
3. Medscape https://reference.medscape.com/drug/cymbalta-irenka-duloxetine-342960

Diabetic Neuropathy Treatment: American Academy of Neurology Guidelines

- Offer TCAs, SNRIs, sodium channel blockers and / or gabapentinoids
- SNRIs: duloxetine, desvenlafaxine
- Gabapentinoids: gabapentin, pregabalin
- Sodium channel blockers: oxcarbazepine, lamotrigine, lacosamide, valproate
- Nabilone
- Topical capsaicin
- Not to use opioids (except tramadol)

Reference:
Price R et al. Oral and topical treatment of painful diabetic neuropathy: Practice guideline update summary. Neurology 2022; 98:31-43. American Academy of Neurology

My take: avoid TCAs in the elderly. If a TCA is used, use nortriptyline and avoid imipramine and amitriptyline (although amitriptyline has more research to support its benefits). Avoid tramadol in the elderly (see Tramadont info).

Neuropathic Pain: NHS guidelines 2024

- Tricyclic Antidepressants (TCAs): amitriptyline, imipramine (10-50mg).
- Gabapentin, Pregabalin
- Capsaicin (0.075% cream for post herpetic neuralgia), Lidocaine (5% patch for post herpetic neuralgia)
- Carbamazepine (for trigeminal neuralgia)
- Duloxetine (my first choice)

Trial of 6-8 weeks

My take: avoid TCAs in the elderly. If a TCA is used, use nortriptyline and avoid imipramine and amitriptyline (although amitriptyline has more research to support its benefits). Small doses (10mg of nortriptyline) are often enough.

Gabapentinoids (Gabapentin [Neurontin], Pregabalin [Lyrica])

Five key clinical pearls:

1. Overused for chronic pain management in the elderly.
2. They are high risk medications, especially in the elderly.
3. If used with opioids, they increase the risk of overdose complications and death
4. If the patient is not sure that the medication is helping, strongly consider gradual taper and discontinuation.
5. They carry risk of abuse and addiction
6. Dose needs to be reduced for chronic kidney disease based on creatine clearance and or GFR. GFR around 50: max daily dose of gabapentin 1800. GFR around 30: max daily dose of gabapentin around 900. GFR around 15: Max dose 600. Baby doses (e.g., 50mg) for patients with ESRD. Pharmacy input whenever feasible.

Pregabalin is approved for management of generalized anxiety disorder in Europe.
Pregabalin is more potent (ratio 1:6) and has more predictable absorption than gabapentin but is costlier.

- Gabapentin follows zero-order saturable absorption – meaning that absorption decreases as dose increases. Therapeutic dose range for diabetic neuropathy = 1800-3600mg / day (unclear in kidney disease)
- Pregabalin follows a linear absorption with bioavailability is 90% of more, irrespective of the dose, which gives it more predictability. Pregabalin has 6 times higher affinity to alpha2 delta 1 ligand compared to gabapentin. Therapeutic dose = 150-600 mg/day (unclear in kidney disease).
- Both are primarily excreted unchanged by the kidneys. So, the dose needs to be reduced (need pharmacist input) but no studies to guide this.
- Hemodialysis removes 30% of gabapentin and 55% of pregabalin

Reference:
Raouf M et al. Rational dosing of gabapentin and pregabalin in chronic kidney disease. Journal of Pain Research 2017. Jan 17.

Joint and Arthritis Pain – Stanford Lifestyle Medicine

- Mediterranean diet
- Omega 3 (350-2400 mg daily)
- Turmeric (1.5 grams) plus black pepper (piperine)
- Sleep
- Movement

Reference:
www.longevity.standord.edu

Opioids use in the United States and the 2023 AGS BEERS Criteria

- Amongst opioid prescriptions in various age groups, prescription highest in elderly (26.8%)
- Access to opioid pain relief: US gets 30 times more opioid pain relief medication than it needs compared to 4% in India and 0.2% in Nigeria.
- US, Germany and Canada have the highest use of opioids and Greece, New Zealand and Czech Republic has the lowest use – most use is for chronic non-cancer pain.
- US consumed 68% of the world's prescribed opioid analgesics between 2011 and 2013

The 2023 AGS BEERS criteria recommends to avoid use of opioids in older adults with history of falls or fractures except for pain management in setting of severe acute pain (e.g., recent fractures or joint replacement). Level of Evidence: Moderate. Strength of Recommendation: Strong

The AGS Beers criteria also recommends to avoid simultaneous use of opioids and gabapentinoids (gabapentin, pregabalin) in older adults because of severe sedation-related adverse effects including risk of respiratory suppression or death. Level of Evidence: Moderate. Strength of Recommendation: Strong.

- Exceptions: When transitioning from gabapentinoids to opioids or when using gabapentinoids to reduce opioid dose although caution is advised in all circumstances

<u>References:</u>

- Gazelka et al. Opioids adults: Indications, Prescribing, Complications, and Alternative Therapies for Primary Care. Concise Review for Clinicians. Mayo Clinic Proceedings 2020; 95(4):793-800.
- The Lancet Commission on Global Access to Palliative Care and Pain Relief.
- Degenhardt et al. Global patterns of opioid use and dependence: harms to populations, interventions, and future action. Lancet 2019; 394:1560-1579
- American Geriatrics Society 2023 Beers criteria for potentially inappropriate medications in older adults.

Opioids for Chronic Non-Cancer Pain NOT Evidence-Based

If you are prescribing opioids for chronic non-cancer pain, please inform the patient the following:

1. that it is NOT based on evidence to date.
2. That non-opioid therapy did as well as opioid treatment
3. That opioid use carries risks of serious harm
4. That the harm is dose dependent
5. Elderly are at higher risk of serious harm compared to middle aged adults who are at higher risk compared to younger adults

Please also share the following with the patient if patient wants more details:

6. The CDC Clinical Practice Guidelines for prescribing opioids for pain – United States 2022. MMWR 71(3), November 2022 mentioned the following:
    a. Insufficient evidence to determine long-term benefits and increased risk of serious harm with long-term opioid therapy that appears to be dose dependent
    b. Serious harm – opioid use disorder, overdose, all cause deaths, fracturs, falls, myocardial infarction
    c. Mean improvement 1 (0-10 Likert scale) in first three months
    d. Mean improvement reduces to 0.5 in the next three months
    e. No difference in pain improvement (chronic pain) compared to non-opioid group
    f. No different in functional improvement (chronic pain) compared to non-opioid group
    g. Stepped therapy starting with opioids had HIGHER pain intensity compared to stepped therapy starting with nonopioids.
    h. Note: CDC guidelines DO NOT apply to palliative care settings, end of life care, cancer, sickle cell disease
7. In the only randomized controlled study of opioids for chronic pain in individuals 50-years and older, the opioid group DID NOT DO BETTER than non-opioid group and opioid group had more adverse effects compared to non-opioid group.
    a. Krebs EE et al. Effect of opioid vs Nonopioid medications on pain-related function in patients with chronic back pain or hip or knee osteoarthritis pain. JAMA 2018;319(9):872-882.
8. In this systematic review and meta-analysis (98 randomized controlled trials – more than 26,000 patients) of opioids for chronic pain, opioids DID NOT DO BETTER than placebo for providing minimally important difference – MID (for pain reduction as well as functional improvement). The benefit was reduction in pain by 0.69 cm (0-10 cm scale, 1 cm being the MID) and improvement of function by 2.4 points (0-100, 5 points being MID). For all the risks posed by opioids, patients need to know that potential benefits are very small.
    a. Busse JW et al. Opioids for chronic noncancer pain. A systematic review and meta-analysis. JAMA 2018;320(23):2448-2460.

9. The recent (December 2021) American Academy of Neurology updated guidelines recommend AGAINST the use of opioids, tramadol and tapentadol for the treatment of diabetic neuropathy.
    a. Price R, Smith D, Franklin G, et al. Oral and topical treatment of painful diabetic polyneuropathy practice guideline update. Published online December 27, 2021.

VA Opioid Guidelines 2023

Three key points

- Use buprenorphine instead of full agonists (eg, hydrocodone, oxycodone, morphine, fentanyl) for patients with chronic pain who require daily opioids for pain management (LTOT – long-term opioid treatment).
- Buprenorphine has lower risk of misuse and overdose compared to full agonists and overall superior safety profile.
- Opioid therapy for any duration can be harmful.

Reference:

Sandbrink F et al. The Use of Opioids in the Management of Chronic Pain: Synopsis of the 2022 Updated U.S. Department of Veterans Affairs and U.S. Department of Defense Clinical Practice Guideline. Annals of Internal Medicine Feb 14, 2023.

Buprenorphine for Pain Management in Primary Care

Target Patient population: Adults on long-term opioid therapy (LTOT) for chronic pain management (with traditional full opioid agonists [e.g., oxycodone, morphine, fentanyl]) who also have opioid misuse (OM) or opioid use disorder (OUD) and repeated opioid adverse effects-related visits to ED and hospitalizations (especially respiratory and central nervous system depression).

Intervention: Switch traditional full opioid agonists to Buprenorphine (buprenorphine patch [5mcg/hr once a week, up to 20mcg/hr), buprenorphine sublingual / buccal film (75mcg twice a day, up to 450mcg twice daily), buprenorphine plus naloxone 0.5mg to 24mg / day, and in certain situations [e.g., severe opioid use disorder plus severe pain], may be necessary and appropriate to use higher than 24mg/day]).

Potential benefits:

1. Reduced risk of overdose deaths and reduced visits to ED and reduced need for hospitalization due to opioid-related adverse effects. Minimal loss of pain control effects compared to previous opioids.
2. Less risk of misuse as buprenorphine has lower risk of euphoria compared to other opioids.
3. Reduced risk of diversion and intravenous self-administration as presence of naloxone blocks the euphoric effects of buprenorphine if used intravenously. Thus, naloxone reduces abuse potential of buprenorphine.

Potential risks: Withdrawal symptoms in initial stages of switch may be seen but these risks can be mitigated with several strategies as mentioned below.

Mitigating risks of withdrawal during switch:

1. For OUD, buprenorphine can be given once a day. For pain management, it generally needs to be given three to four divided doses a day as it's analgesic effect may wear off in 7 hours.
2. Wait for mild withdrawal symptoms before initiating buprenorphine. Provide patient with education about withdrawal symptoms and access to PCP for any questions during withdrawal symptoms.
3. Titrate buprenorphine dose to optimally mitigate withdrawal symptoms.
4. Involve psychiatric provider with expertise in OUD to join via virtual collaborative psychiatric care.
5. Engage family and friends to provide support during initial day or two.

Pharmacology of Buprenorphine

Buprenorphine is a high-affinity, partial mu-opioid agonist with slow dissociation, resulting in lower risk of creating euphoria and lower risk of overdose death compared to full agonists. It is approved by the FDA for treatment of OUD, opioid withdrawal management and pain

management. Buprenorphine has less risks than full opioid agonists (e.g., oxycodone, morphine, fentanyl) but it is still a potent opioid with all the risks associated with opioid use.

Pharmacology of Naloxone

Naloxone is an opioid antagonist. Naloxone has minimal bioavailability if taken sublingually / buccally, and so sublingual / buccal formulations does not block the effects of buprenorphine.

Formulations and dosing:

Initial dosing begins with Suboxone 2mg (in combination with naloxone 0.5mg) sublingual tablet (under the tongue) or buccal film (under the tongue or inside the cheek) three times a day and, if well tolerated, dose may be increased to 16-24mg per day taken in 3-4 divided doses. Higher dose formulations of suboxone are also available.

Buprenorphine without naloxone in the form of buccal film and transdermal formulations are also available and approved specifically for pain management and may be used if buprenorphine plus naloxone formulation is not providing adequate pain relief. Methadone is another option for pain management in the target population with OUD and chronic pain on LTOT.

Case Example

Mr. T is a 70-years old retired construction worker residing in a nursing home. He has history of heroin addiction in the past. Currently, he is on oxycodone 10/325mg four times a day plus the same dose as needed every 6 hours for pain. Recently, he lost his brother with whom he was very close. He has not only been taking all the as needed oxycodone but "demanding" that his pain medications be increased as his pain is "not at all" controlled. Via collaborative psychiatric care, the geriatric psychiatrist diagnoses him with Opioid Use Disorder (OUD) and together with his primary care provider, Mr. T is provided with education, motivational interviewing, and with pressure from his wife reluctantly agrees to switch to Buprenorphine – naloxone (Suboxone) combination for his OUD.

Recommendations: Discontinue scheduled and as needed oxycodone. Start buprenorphine (2mg) -naloxone (0.5mg) (Suboxone) sublingually q3hours as needed for withdrawal symptoms. First dose of Suboxone only after 12 hours from the last oxycodone dose. Mr. T is given lots of emotional support and he is kept as busy as possible to help him cope with withdrawal symptoms. As needed medications to manage other symptoms were also added as follows: trazodone for insomnia, hydroxyzine for anxiety, loperamide for diarrhea, dicyclomine for abdominal cramps, ondansetron for nausea, acetaminophen for pain, and clonidine for sympathetic overactivity for the first 3 days and then discontinued. Mr. T has needed 12 mg buprenorphine per day to adequately manage withdrawal symptoms and cravings. Mr. T is continued on Buprenorphine-naloxone combination (for his OUD) at 12 mg buprenorphine per day in three equally divided doses. Mr. T has declined mutual-aid support groups (e.g., Narcotics anonymous) and declined individual psychotherapy (cognitive behavioral) for pain but has agreed to addition of duloxetine for chronic pain.

Teaching point: Buprenorphine can be safely initiated for treatment of OUD in LTC settings. For just OUD, once a day dosing is enough. For pain management (as in this case) total daily dose needs to be given in three to four divided doses.

Canadian 2024 Guidelines. Opioid Use Disorder
Slow release morphine as second line agent (Buprenorphine and methadone are first line).

References and Resources:

1. Olsen and Sharfstein 2019 book: The Opioid Epidemic.
2. American Society of Addiction Medicine. National guidelines on medications for opioid addiction. 2015.
3. Warner et al. A practical approach for the management of the mixed opioid agonist-antagonist buprenorphine during acute pain and surgery. Mayo Clinic Proceedings 2020; 95(6):1253-1267.
4. Khanna IK. Buprenorphine – an attractive opioid underutilized potential in treatment of chronic pain. Journal of Pain Research 2015;8: 859-870.
5. Hale M, Gimbel J, Rauck R. Buprenorphine buccal film for chronic pain management. Pain Management 2020; 10(4):213-223.
6. NAMI. https://www.nami.org/About-Mental-Illness/Treatments/Mental-Health-Medications/Types-of-Medication/Buprenorphine/Buprenorphine-Naloxone-(Suboxone)

Buprenorphine Slow Induction

Source: Dr. Potru, Emory University. https://www.asra.com/news-publications/asra-newsletter/newsletter-item/asra-news/2021/05/01/how-i-do-it-buprenorphine-conversions-inductions-in-the-pain-clinic-and-postoperative-settings

Daily schedule of buprenorphine up-titration and down-titration and discontinuation of full-agonist opioid therapy in a patient receiving 80 mg of controlled - release oxycodone 80 mg three times per day.

Day 1: 0.5 mg twice daily* 80 mg, 3 times daily
Day 2: 1 mg twice daily+ 80 mg, 3 times daily
Day 3: 1 mg 3 times daily+ 80 mg, 3 times daily
Day 4: 2 mg 3 times daily 80 mg, twice daily
Day 5: 4 mg 3 times daily, None
Day ≥ 6: Adjust dose to symptoms, None
* One-quarter 2-mg tablet
+ One-half 2-mg tablet

🙏

Suboxone: buprenorphine plus naloxone film (generic)
Doses: 2mg/0.5mg; 4/1,8/2,12/3
Easier to cut film than tablet
Sublingual film for sublingual or buccal administration

Suboxone tablet 2/0.5; 8/2 generic

Some patients may need higher doses than 4mg three times daily up to 16-24mg/day.

Recommend involving a pharmacist in Post-Acute and Long-Term Care Settings (PALTC) (e.g., nursing homes).

Risk of diversion by staff (e.g., nurses) exists in all settings including PALTC.

Informed Consent for Use of Opioids for Chronic Non-Cancer Pain in Older Adults

Goal of this document to facilitate your (patient) education and empowerment.
Please read each statement and initial.

__ I understand that the use of opioids for chronic non-cancer pain in older adults is not supported by research to date.

__ I understand that there is at least one study that found that opioids for chronic non-cancer pain did not do better regarding pain management compared to non-opioid group and opioid group had worse adverse effects.

__ I understand that opioids may cause more harm than good to me in the short run and or in the long run.

__ I understand that opioid use is linked to serious adverse events in the short run and long run. The key risks are as follows:
- Dangerous risks: respiratory depression, death, encephalopathy, delirium
- Serious risks: worsening of respiratory disorders (e.g., COPD), worsening of sleep disordered breathing (e.g., OSA), endocrinopathy (e.g., lowering of testosterone), intestinal obstruction, depression, withdrawal syndrome, psychological and physiological dependence, addiction, tolerance, opioid induced hyperalgesia
- Mild to moderate adverse effects: constipation, itching, nausea, impaired memory, daytime sleepiness, fatigue, irritability.

__ All my questions, clarifications (about meaning of terms mentioned in this document) and concerns regarding risks were answered to my satisfaction.

__ I have been adequately informed of key non-opioid alternatives to manage chronic pain and understand that these are safer than opioids.

__ I understand that naloxone will be prescribed along with opioid to reduce risk of opioid-related toxicity including death.

__ I understand risks of opioids specifically for me (based on my current physical health conditions and mental health conditions and current medications) and still would like them prescribed.

_____ _____

Name of Patient Signature of patient Date:

Check list for Prescribers to complete prior to prescribing opioids for chronic non-cancer pain in older adults

Goal of this checklist is to reduce risk of opioid-related deaths and opioid use disorder

__ Opioid risk tool (ORT) or similar tool completed to assess risk of opioid use disorder

__ ACES (Adverse Childhood Events Score) or similar tool completed to assess childhood adversity as it is a risk factor for developing addictions

__ PHQ-9 (or similar depression screening tool) and GAD-7 (Generalized Anxiety Disorder -7 or similar anxiety screening tool) completed to monitor and treat co-morbid depression and anxiety disorder

__ Rational deprescribing of medications (e.g., benzodiazepines, muscle relaxants, gabapentinoids) already present that could increase risk of opioid related toxicity (CNS depression, respiratory depression, death) done

__ Family education about use of naloxone provided

__ Obtained informed consent from patient (see informed consent document)

__ Prescribed naloxone (Narcan)

_____	_____	_____
Name of Prescriber	Signature	Date

Legacy Patients: Inherited patients on long-term opioid therapy for chronic pain

Legacy patients are patients on LTOT (long-term opioid therapy for chronic pain) – at least for 3 months but typically for years or even decades. When their medical provider is unable to continue to prescribe opioids (e.g., they retired, the pain clinic shut down), these patients are often transferred to other providers, typically primary care providers who may not be comfortable continuing the opioid prescription and either refuse to prescribe, or, prescribe but begin a rapid taper. Both such practices have serious potential negative consequences listed below:

- Seek illicit opioids
- Frequent visits to emergency departments
- Increased rates of hospitalizations
- Increased rates of mental health crises
- Increased risk of overdose events and deaths
- Suicide
- Family breakdown
- Loss of job
- Exacerbation of underlying mental health disorders

These risks are even more likely if the patient has underlying substance use disorder and or mental health disorder (e.g., major depression, trauma-related disorder).

What should the primary care provider do?

1. Discuss case with previous clinician and get more details
2. Prescribe opioids temporarily until a care plan is developed collaboratively with the patient and her/his family/support system
3. Develop a comprehensive patient-centered care plan using the checklist mentioned below in resources section. The care plan should involve an individualized slow (or very slow) plan to taper opioids (over weeks to months or even longer if necessary). If patient is on benzodiazepines (BZD) also, a slow individualized taper of BZD while keeping the opioids as is may be considered if that is preferable to the patient.
4. Assess patient for opioid use disorder and if present, discuss buprenorphine treatment
5. Even if patient doesn't have OUD, consider buprenorphine for pain management as the risk of overdose events and death is less with buprenorphine compared to opioids used for chronic pain (e.g., morphine, oxycodone, hydromorphone, fentanyl).
6. Seek help of a consultant psychiatrist or an addiction medicine specialist via telemedicine
7. Document opioid stewardship and rationale for care plan
8. Closely follow up and involve a social worker or another provider for co-management

Resources and References:

1. Coffin PO, Bareveld AM. Inherited taking opioids for chronic pain: Considerations for primary care. NEJM Feb 17, 2022; 386(7):611-613.

2. Duggirala R, Khushalani S, Palmer T, Brandt N, **Desai A**. Screening for and Management of Opioid Use Disorder in Older Adults in Primary Care. *Clin Geriatr Med*. 2021;38(1):23-38. doi:10.1016/j.cger.2021.07.001 (I am the corresponding author. Email me to request a PDF of this paper to be used for educational purposes only)
3. AMDA – The Society for Post-Acute and Long-Term Care Medicine. Pain in the Post-Acute and Long-Term Care Setting Clinical Practice Guideline. Columbia, MD: AMDA 2021. This document is not free but well worth the money. It has excellent detailed information on all aspects of pain prevention, assessment and evidence-based management with a host of non-opioid alternatives.
4. Pain Management in Older Adults without Opioids and Tramadol: The ATMAN approach. 90-minute Presentation as part of ECHO program through University of Idaho: https://youtu.be/wlEnrRirsL4
5. Checklist of non-opioid evidence-based and evidence-informed interventions for chronic non-cancer pain management. Please email me for this checklist.
6. Opioid and benzodiazepine taper flow sheet. http://www.oregonpainguidance.org/app/content/uploads/2016/05/Opioid-and-Benzodiazepine-Tapering-flow-sheets.pdf

"Tramadont" – Tramadol

"Tramadont" is a term created by Dr. David Juurlink, internist and clinical pharmacologist at the University of Toronto who has a blog post by the same name (https://toxandhound.com/toxhound/tramadont/)

I also listened to him in the GeriPal podcast (excellent podcast by the way; I was once on it with my friends and colleagues Dr. Susan McFadden and Dr. Anne Basting ☺).
https://geripal.org/geripal-podcast/

Dr Juurlink advises use NOT to use tramadol for pain management (there are better options) although if someone is doing well, he would not change it but educate the patient about potential drug-drug interaction risks with tramadol and many other commonly used medications that may make tramadol ineffective or cause toxicity (including serotonin syndrome and seizures).

Why we must avoid prescribing tramadol?

1. Tramadol is on the Beers list of medications that are potentially inappropriate for use in older adults.
2. Tramadol is an opioid. 50mg tramadol = 10 mg morphine ((0.2 ratio MME [morphine milligram equivalent] per CDC 2022 opioid guidelines) = 10 mg of hydrocodone = 6.66 mg of oxycodone (in normal metabolizers; in ultra-rapid 2D6 metabolizers, it will be even higher amount of MMEs). It is often used because of the mistaken belief that it is not opioid and or that it has better adverse effect profile than opioids. Tramadol use is associated with all the adverse effects associated with use of other opioids plus adverse effects and adverse drug-drug interactions due to its SNRI effects and need for normal 2D6 liver enzyme functioning.
3. Tramadol (parent compound) is an SNRI (like venlafaxine) and in the liver, it gets converted in the liver (by CYP 2D6) to an active metabolite that is an opioid agonist. There is high polymorphism of 2D6 so in a given patient, there is no way to know how much SNRI you are giving and how much opioid. If they are 2D6 poor metabolizers, then there is hardly any conversion to opioid and if there is rapid 2D6 metabolizer, there is too much opioid and hardly any SNRI. Why would we give someone a meditation and tell them that "I don't know how much SNRI and how much opioid I am giving you but go ahead and take it"? it's like telling them we will give them a combination of acetaminophen and oxycodone, but we have no idea how much of each is there in the pill! Really!
4. Even if we give tramadol and patient is doing well, if later they start taking another drug that inhibits 2D6 (eg, bupropion, paroxetine, haloperidol, dextromethorphan, fluoxetine, diphenhydramine, cimetidine), then they will not only make tramadol ineffective (by blocking its conversion to an opioid) but may also go into opioid withdrawal. And there are so many drugs that block 2D6 (including over the counter drugs) that it is impossible to keep track or avoid.

5. Many patients taking tramadol are also on an SSRI or an SNRI and or trazodone and or buspirone. All these medications can interact with tramadol pharmacodynamically and put patient at risk of serotonin syndrome and or seizures. Both of these are serious and potentially fatal risks.
6. There is no study to support the use of tramadol for chronic pain (pain longer than 3 months). If you use it for management of chronic pain, please let patient know that this is NOT evidence-based intervention.
7. If you are giving tramadol for acute pain, might as well give another opioid (e.g., hydrocodone) to avoid the other risks associated with tramadol. SNRI effect has not been shown to help with acute pain.
8. Tramadol use is associated with increased mortality.
9. Tramadol use is associated with increased risk of DVT (deep vein thrombosis).
10. Tramadol use is associated with increased risk of falls and fracture (e.g., hip fracture).

Note:

- FDA lists more than 22 medications as 2D6 inhibitors and classifies them as "strong, moderate, and weak."
- 2D6 metabolizes 25% of medications prescribed (eg, antidepressants, antipsychotics, opioids, beta-blockers).
- Strong 2D6 inhibitors will convert a person with normal 2D6 functioning to a 2D6 poor metabolizer.
- 2D6 inhibition for many drugs is dose dependent – higher doses, higher inhibition.
- Renal dosing recommended if GFR low (e.g., below 30) and to use immediate release and avoid extended release.
- Seizures have been reported within the recommended doses
- Seizure risk higher in individuals with history of seizure, in individuals at risk for seizure (eg, TBI, stroke), and in individuals taking other medications (eg, bupropion) that increase risk of seizures
- Adverse effects higher in patients with chronic kidney disease
- 2D6 rapid metabolizers: 1-10% Caucasians, 3% African Americans, 1% Hispanics and Asians.
- Orthostatic hypotension may occur in older adults
- Tramadol use is associated with SIADH / hyponatremia (Beers criteria 2019)
- There is risk of hypoglycemia with tramadol (no definite clue what the mechanism is) even in patients without diabetes and increases risk of hospitalization related to hypoglycemia.
- Structure of tramadol similar to venlafaxine
- Recommend slow taper due to risk of both opioid withdrawal and SNRI withdrawal symptoms that can be quite distressing and disabling
- Preliminary research from research team in South Korea indicate that tramadol use is associated with increased risk of dementia.

My strong advice: Please involve a pharmacist to help with drug-drug interaction monitoring and education if tramadol is prescribed. Minimize its use as much as is possible.

Opioids – Tramadol MMEs (Morphine Milligram Equivalents)
Source: CDC Opioid 2022 Guidelines

Drug	Conversion (MME)
Morphine	1
Hydrocodone	1
Tramadol	0.2
Oxycodone	1.5
Fentanyl Mcg/hour	2.4
Methadone	4.7
Codeine	0.15

What does this mean?
10 mg of hydrocodone = 10 mg of morphine
50 mg of tramadol = 10 mg of morphine = 10 mg of hydrocodone = 6.66 mg of oxycodone
50 mcg of fentanyl = 120 mg of morphine (as fentanyl patch is every three days, 120 mg morphine every three days is 40 mg of morphine every day)

Note: doses above 50 MMEs per day provide minimal to none further benefit (regarding pain relief and functional improvement) but have disproportionately higher adverse effects and serious risks.

Red flags for Opioid Misuse and Opioid Use Disorder

- Frequent early refill requests
- Escalating dose without consulting physician
- Multiple emergency room/urgent care presentations for opioid treatment
- Seeking opioids from multiple prescribers
- Recurrent lost or stolen medications
- Stealing or borrowing from others
- Disruptive behavior
- Not taking as prescribed

Reference: OUD: Diagnosis and Treatment Guidelines. Kaiser Permanente 2022.

Opioid Induced Hyperalgesia (OIH)

- OIH: pain increases with increased dose
- Opioid tolerance: analgesic effect reduces with increased dose
- Opioid withdrawal: pain increases accompanied by withdrawal symptoms
- OUD: continued non-medical use despite adverse consequences

Reference: Wilson et al. Mechanisms, diagnosis, prevention and management of perioperative opioid-induced hyperalgesia. Pain Management 2021.

Medical Cannabis for Chronic Pain and other conditions

Tetrahydrocannabinol – THC

- Neuropathic pain
- Pain due to multiple sclerosis
- Nausea and vomiting related to chemotherapy
- Weight loss in the context of AIDS

Cannabidiol – CBD

- Epilepsy (FDA has approved Epidiolex for treatment of certain epilepsies)
- Anxiety
- Insomnia
- Chronic pain

Plant-based THC preferred over synthetic THC (e.g., Marinol – dronabinol). I have not seen good results with Marinol for weight loss in palliative care settings and nursing homes.

Nabilone (prescription synthetic THC) is very costly

Many experts recommend starting at 2.5mg THC at night and titrating up. Dose of CBD varies.

There is tremendous variability in quality of THC-CBD combination.

CBD when present with THC lowers the negative emotional effects of THC.

Risks of THC: anxiety, panic attack, tachycardia, abuse, tolerance, dependence, cannabis use disorder, cognitive impairment, driving accidents, accidents using machinery, falls (especially in the elderly), and rarely – psychotic symptoms.

Risks of CBD: headache, sleepiness, dizziness.

Note: THC products may result in short term improvement of pain. High risk of dizziness and sedation in the elderly. Lack of high-quality studies Risk of delirium is significant in elderly

Reference: McDonagh MS et al. Cannabis-based products for chronic pain. A systematic review. Ann Intern Med 2022; 175:1143-1153.

Resource: GeriPal podcast on “Cannabis for older adults” hosted by geriatricians and palliative medicine specialists, Drs Eric Widera and Alex Smith. July 22, 2021.

Namaste

Resources

- The American Chronic Pain Association https://www.theacpa.org .
- International Association for the Study of Pain
- Healthy Minds Program app: best app (in my opinion) to learn about meditation and mindfulness
- Cleveland Clinic Wellness app (Free): mindful moments by ccw for Guided meditation
- CBTi Coach app (Free): Cognitive Behavioral Therapy for insomnia by Veterans Administration. Free. It has excellent relaxation exercises.
- UCLA Mindful app (Free)
- PTSD Coach app (Free)
- Lean PD (Lean = Efficient [minimize waste] and PD = Personal Development) by Paul Akers to create a checklist of identified daily wellness activities and track one's engagement in it.
- Lifesum (free) - to track food and fluid intake calorie counting
- Cronometer (free) – to tells you the amount of macro and micro nutrients intake
- Palouse Mindfulness offers free online MBSR course ☺
- *One Day Mindfulness Millionaire: Living Mindfully – A guide for the uninitiated*. Abhilash Desai and Faith Galliano Desai https://store.bookbaby.com/book/one-day-mindfulness-millionaire

Medical Poem: Opioid Addiction

My patient
A tall man
Habitual twinkle
overflowing with self-assurance
Abrupt way of laughing
Suddenly given to
inexplicably deep meditations
on personal experiences
and modern life
illuminating aspects of
trauma and triumph
sadness and isolation
that often leave me speechless
Somehow it also reconciles me
to the future
He looked at me and said,
“Thanx doc
for prescribing Suboxone
It is time to sit down
at the banquet of consequences
from my past choices”
I nodded

Suboxone has been key to many patients with opioid addiction getting their lives back but after recovery they need help coping with regrets, guilt, shame for the real and imaginary harm they have caused to their loved ones and themselves

Medical poem: Opioid withdrawal

Grotesque cascade of
war injuries
Each one debilitating
in its own right
Each needing 10 oxys
Last dose yesterday
Searing bolts of pain
passed through me
Stemming from
a hundred places
in my bones and muscles
I was squealing
and gasping
and writing
Opioids had claimed
far too many veterans' lives
One would have been too many
911
Please help

Oxy = OxyContin, a powerful prescription opioid
I treat many veterans with opioid addiction
This veteran was a victim of IED - improvised explosive device

Aging is a Privilege

Growing old is not a disease to be cured or defeated, but a privilege, tremendous privilege to be humbled by, to be grateful for. A privilege withheld from most of our ancestors and so many of our brothers and sisters. Let's become worthy of becoming old, by falling in love easily, holding our heart gently, holding our fears lightly, and forgiving continuously.