

PAIN MANAGEMENT IN OLDER ADULTS

Leah Kalin, MD
Assistant Professor
Division of Internal Medicine and
Geriatrics
OHSU
April 2023

DISCLOSURES

I have no conflicts of interest to disclose

LEARNING OBJECTIVES

Detail approaches to pain assessment for those with and without cognitive impairment

Discuss non-pharmacologic interventions for pain

Discuss pharmacologic management of pain in older adults

- Review age-related changes in pharmacokinetics
- Highlight potentially harmful analgesics for older adults and identify safer alternatives
- Offer tips for prescribing in community and facility settings



TRUE OR FALSE?

Pain is normal
part of aging

FALSE!

Pain is NOT a normal or expected part of aging but commonly painful conditions are more common with age

Prevalence of chronic pain among older community dwelling adults is ~60-65% and up to 80% in post-acute and long-term care residents¹

PAIN AND AGING

60-65% of older adults report living with persistent pain¹

- Similar among those with cognitive impairment² and cancer³

Only 26% of those living with persistent pain receive non-drug interventions⁴

17-30% never receive any drug therapy³

- Lower odds of pain treatment for those 85+, with cognitive impairment

1. Nahin, RL. J Pain, 2015

2. Hunt, LJ, et al. J Am Geriatr Soc, 2015

3. Pimentel CB, et al. J Am Geriatr Soc, 2015

4. Rasu RS, et al J Pain, 2013

PAIN MANIFESTATION IN OLDER ADULTS

Presents as a spectrum of experiences and symptoms

A tale of two patients...



VISCERAL PAIN:

Poorly localized, can manifest as referred pain

Dull, squeezing, colicky

Typically GI, GU, thoracic

Examples – angina, dyspepsia, intestinal cramping, bladder

NEUROPATHIC PAIN:

Diffuse or well localized

Paresthesias – burning, numbness, tingling

Sharp, deep

Nerve damage anywhere from peripheral nerve to CNS

Examples – peripheral neuropathy, sensitization syndromes (fibromyalgia, post CABG syndrome)

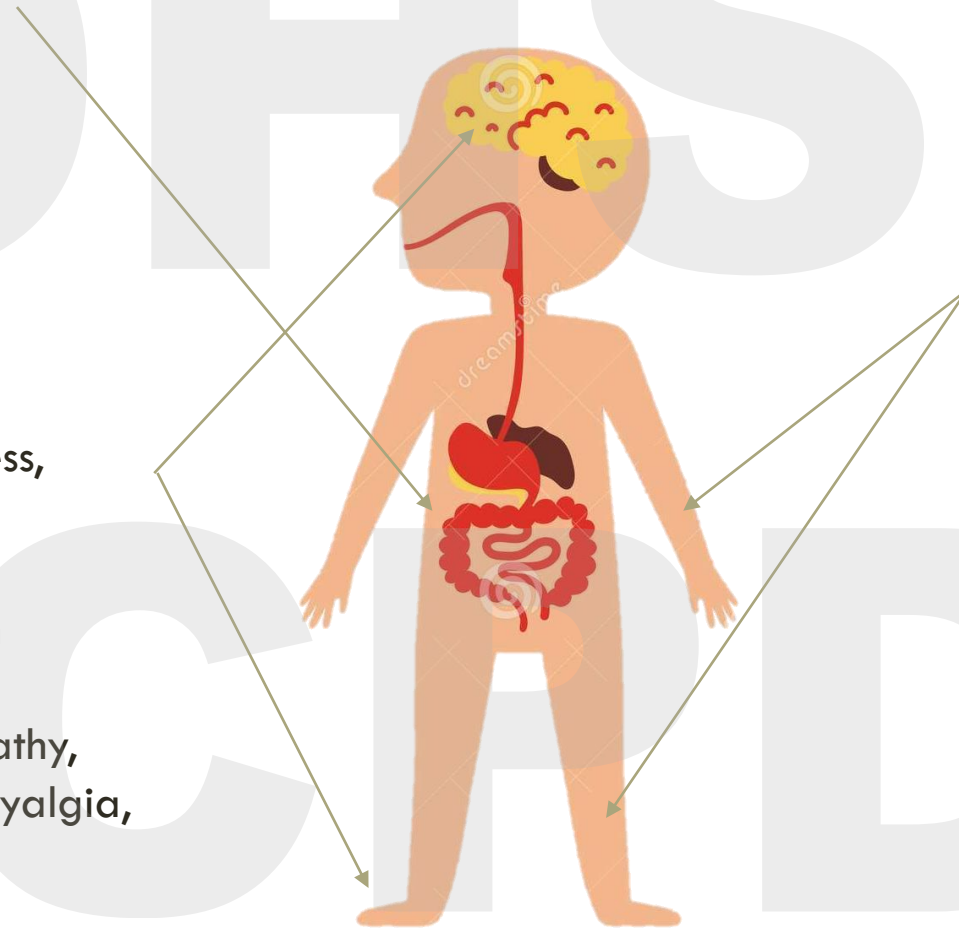
SOMATIC PAIN:

Well localized

Aching, gnawing, throbbing, cramping

Typically muscular, skeletal, joint, connective tissue

Examples – arthritis, tendon/ligament injury, bruises, lacerations, fractures



OHSU

CPD

PAIN ASSESSMENT

MR. SMITH IS HAVING DISTRESS...

Mr. Smith is 84 and has had dementia for several years. He lives in memory care; needs help with all his ADLs except eating. His wife lives in assisted living and spends much of the day with him. Staff notes he is becoming paranoid, and Mrs. Smith admits he has hit her several times when she tries to help him to the bathroom. He is starting to fall, and staff are having a harder time getting him up. He no longer speaks in full sentences, has become incontinent, and is spitting out his food. He has lost 10 pounds in the last several months.

WHY IS MR. SMITH AGGRESSIVE?

You begin to examine Mr. Smith, and notice growing agitation when you examine his stomach and legs. You ask when Mr. Smith has been aggressive, and it is with toileting and transferring. You ask if he had osteoarthritis or other pain in the past, and Mrs. Smith remembers he used to complain of his back and knees. He doesn't complain now, and he doesn't take any pills.

PAIN IN PATIENTS WITH DEMENTIA

Patients with dementia often cannot express pain; they just feel distressed and may show this by hitting, refusing ADL assistance, stopping eating

If we don't figure out they have pain and treat it appropriately, their distress will simply worsen

UNIQUE MANIFESTATIONS IN OLDER ADULTS

Physical Signs

Elevated blood pressure and heart rate

Furrowed brow, clenched teeth, clenched fists, guarding, favoring an area, rubbing

Abnormal, painful gait

Falls

Functional impairment

Behavioral Signs

Restlessness

Disrobing, removing attached devices

Declining food & drink

Declining routine mobility, activity,
Refusing care

Repeated vocalizations (“help, help”)

Striking out

PAIN MANIFESTATIONS IN COGNITIVE IMPAIRMENT

Experience of pain is preserved but recall and verbal reporting are affected

More common to present with behavioral signs

PAIN-AD Scale

	0	1	2	Score
Breathing Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-Stokes respirations.	
Negative vocalization	None	Occasional moan or groan. Low-level speech with a negative or disapproving quality.	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial expression	Smiling, or inexpressive	Sad. Frightened. Frown	Facial grimacing	
Body language	Relaxed	Tense. Distressed pacing. Fidgeting.	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out.	
Consolability	No need to console	Distracted or reassured by voice or touch.	Unable to console, distract or reassure.	
TOTAL				

Steps for a focused pain assessment in older adults

Step	Cognitively Intact and/or Able to Self-Report	Cognitively Impaired and/or Unable to Self-Report
1	Determine ability to reliably self-report pain and attempt to obtain self-report.	Same as for those able to self-report. Also note if there is a diagnosis of cognitive impairment or dementia. If able to self-report, continue with steps 2–6 in the left column. If unable to self-report, continue with steps 2–6 below.
2	Determine presence or absence of pain by asking older adult if she or he is experiencing pain, hurt, aches, or discomfort “right now” or “at this moment.”	Search for possible causes/sources of pain.
3	Measure self-reported pain intensity using a valid, reliable, and preferred pain scale, such as the Faces Pain Rating Scale–revised, Iowa Pain Thermometer, and Verbal Descriptor Scale.	Observe for potential pain behaviors using reliable and valid pain–behavior observation tool.
4	Assess impact of pain on function to determine pain tolerability.	Incorporate proxy reporting.
5	Assess interference of pain on sleep and emotional stability.	Initiate analgesic trial to evaluate if pain is the cause of behaviors.
6	Develop a multimodal plan of pain care with realistic goals for comfort, function, and mood.	If the analgesic trial confirms pain, develop a multimodal plan of pain care evaluating treatment options' risks/benefits.

Courtesy of S. Booker, MS, RN, PhD(c) and K.A. Herr, PhD, RN, FAAN, University of Iowa, College of Nursing, 2015.

Booker SQ and Herr KA.
Clin Geriatr Med, 2015

OHSU

CPD

NON-MEDICATION THERAPIES

MANY OPTIONS!

Cognitive-behavioral therapy (CBT)

Regular exercise

Chiropractic care

Mindfulness-Based Stress Reduction (MBSR)

Tai Chi

Yoga

Heat therapy

Acupuncture

Therapeutic massage

Acceptance and Commitment Therapy (ACT)



CPI

TAI CHI

TAI CHI FOR PERSISTENT PAIN

Evidence for efficacy across sexes, decades of life, racial groups and compared to aerobic exercise¹

Can be done seated or standing

Best results seen with regular use → 1 hour 2-3x per week

CPD

TAI CHI FOR PERSISTENT PAIN

Large meta analysis with subgroup analyses for common pain conditions

Avg age across trials = 61+/- 11

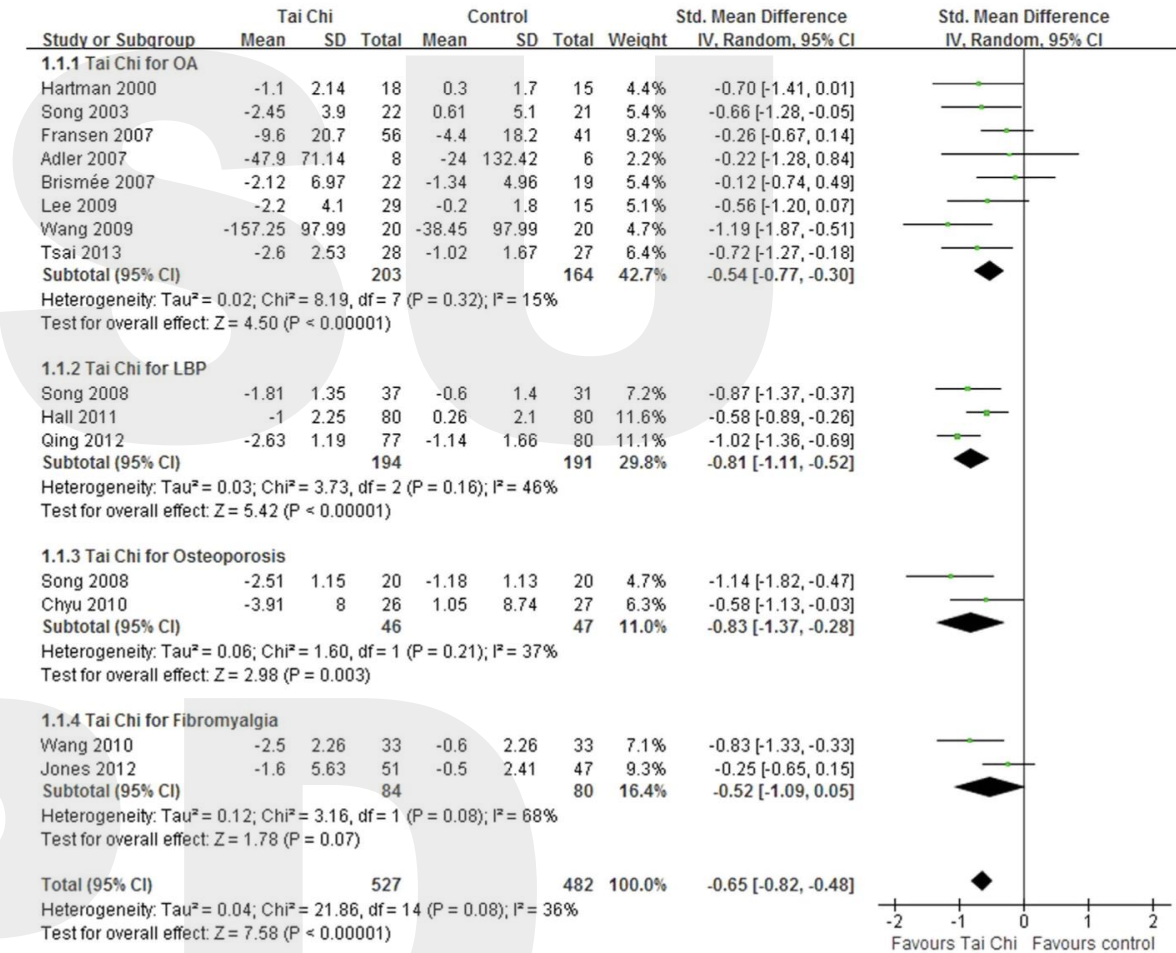


Figure 2. Forest plot of the immediate effects of Tai Chi for chronic pain conditions. OA, osteoarthritis; LBP, low back pain.



CHSU

CPD

MASSAGE

MASSAGE

Cross sectional survey based study of older adults in KY

- 30% of cohort 75+

All completed RAND-36 survey, results stratified by massage users and nonusers

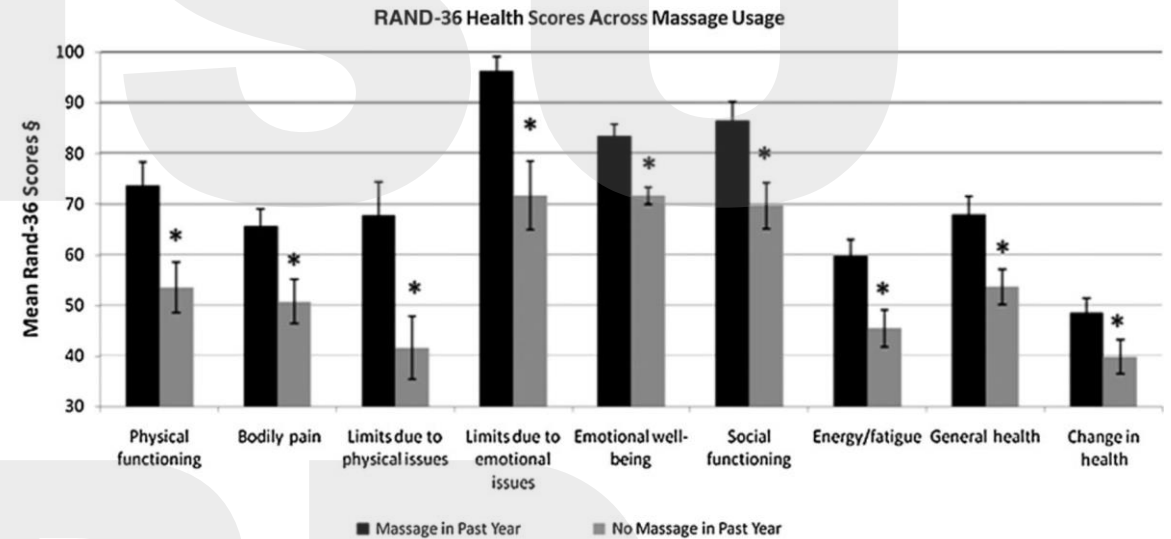


FIG. 1. Graphic representation of RAND-36 scores for users and nonusers of massage therapy. \$Higher scores signify better health; *indicates $p \leq 0.05$ between-group difference.

OHSU

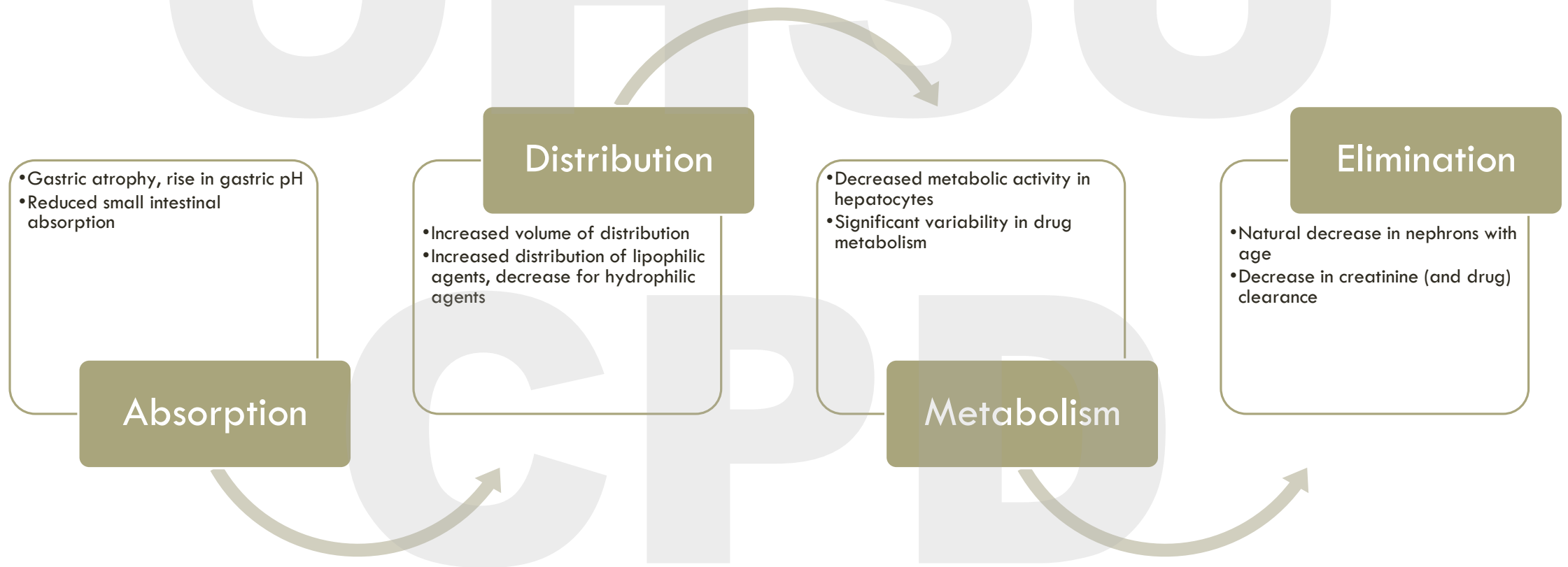
CPD
PHARMACOLOGIC THERAPY

ANALGESICS IN OLDER ADULTS

But first...

CPD

PHARMACOKINETICS AND AGING



TENANTS OF GERIATRIC PRESCRIBING

Start low and go slow

Aim for **lowest effective dose**

Start and stop **one medication at a time**

Streamline - try to use one medication to treat several diagnoses

Reduce doses for reduced hepatic/renal clearance

- A normal creatinine does not mean that renal function is normal

Avoid prescribing medications for **medication side effects (prescribing cascade)**

Consider **non-pharmacologic treatments** when possible

OHSU

CPD

ANALGESIC CLASSES

TOPICAL AGENTS

	Mechanism	Formulation	Dose	Uses	Side effects
Diclofenac	Topical NSAID	Gel, cream, patch	Max 2g upper extremities, 8g/day 4g lower extremities, 16g/day	Somatic, MSK pain	Local irritation Hypersensitivity Small risk systemic side effects
Lidocaine	Local anesthetic	Cream, gel, jelly, lotion, ointment, patch	5% patch=700 mg lidocaine Max of 3 patches/24h, for up to 12h	Need for topical anesthesia (procedures, wound care), minor, localized pain, neuropathic pain (post-herpetic neuralgia)	Local irritation, N/V with patch Systemic side effects when used in excess
Capsaicin	Transient Receptor Potential Vanilloid 1 (TRPV1) Agonist	Cream, lotion, gel, 8% patch (rx only)	Varies, consult product-specific labeling	Diabetic neuropathy Other neuropathic pain MSK pain	Burning, stinging, and erythema at the site of application, leading to intolerance in up to 1/3 of patients

ACETAMINOPHEN

First line agent

Helpful for somatic pain, headaches, but can also be helpful for other types of pain including arthritis

Safer profile for long-term use among older adults

- No CV risk, renal risk, GI bleeding risk

Limit to no more than 3,000mg in 24 hours

NSAIDS

Ex. Ibuprofen, Naproxen, Celecoxib, Meloxicam, Etodolac

Risky for older adults

Limit to no more than 1-2 weeks

Use for acute pain

Avoid in uncontrolled CHF or HTN, CKD (3b through 5), history of GI bleed, blood thinners

Table 1. NSAIDs' common adverse effect profile.

Gastrointestinal toxicity	• Dyspepsia • Gastroduodenal ulcers • GI bleeding and perforation
Cardiovascular adverse effects	• Edema • Hypertension • Congestive heart failure • Myocardial infarction • Stroke and other Thrombotic events
Nephrotoxicity	• Electrolyte imbalance • Sodium retention • Edema • Reduce glomerular filtration rate • Nephrotic syndrome • Acute interstitial nephritis • Renal papillary necrosis • Chronic kidney disease

OPIATES

Historical fear about prescribing opioids to older adults

Withholding opioids when they're indicated can hamper physical and cognitive recovery

Don't withhold opioids solely due to age or "risk of confusion"

Use low doses to start and watch for side effects

Recheck pain scales, behaviors frequently to see if it helped-
DISCONTINUE the drug if your patient does not show improvement in distress

OPIATES

Ex. Oxycodone, morphine, hydromorphone, fentanyl, hydrocodone, tramadol, codeine

High intensity acute pain, post-operative pain, fracture pain, cancer pain

Avoid long-acting opiates, fentanyl patches in acute pain, opioid naïve patients

For some older adults, judicious dose of an opioid may be safer than an NSAID or GABA agonist

- Ex. Older adult with advanced renal disease

SELECTION OF OPIOID

Morphine. Watch for neurotoxic side effects (myoclonus) and with renal impairment

Oxycodone. Preferred in renal impairment

Hydromorphone. High potency. Can be used in renal impairment

Hydrocodone is combined with acetaminophen so must watch total dose of acetaminophen

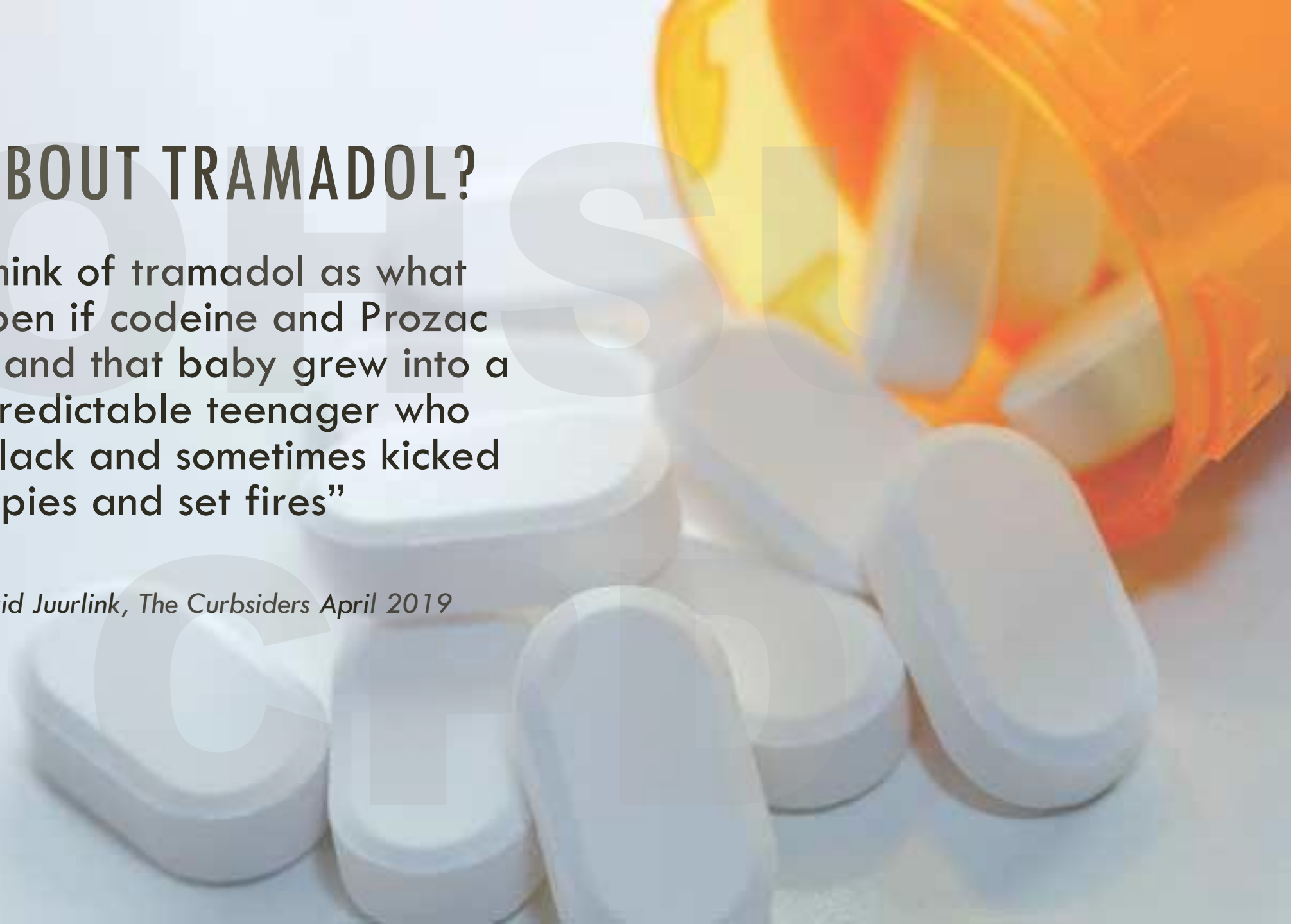
Fentanyl. 80-100x more potent than morphine. Option for pts who cannot take oral or enteral medications and need long-acting pain relief. Use lowest dose possible. Use in severe pain and opioid tolerant only.

Methadone. Long half-life, use in substance use disorder and chronic pain. Significantly more potent than morphine. Applications in cancer-related and neuropathic pain. Complex medication interactions. Not for opiate naïve patients

WHAT ABOUT TRAMADOL?

“I like to think of tramadol as what would happen if codeine and Prozac had a baby and that baby grew into a sullen, unpredictable teenager who wore only black and sometimes kicked puppies and set fires”

Dr. David Juurlink, The Curbsiders April 2019



TRAMADOL (AKA TRAMA-DON'T)

Described as a non-opioid until reclassification as a controlled substance in 2014

Thought to be safer but recent data suggests higher risk of death than non-opioid therapies

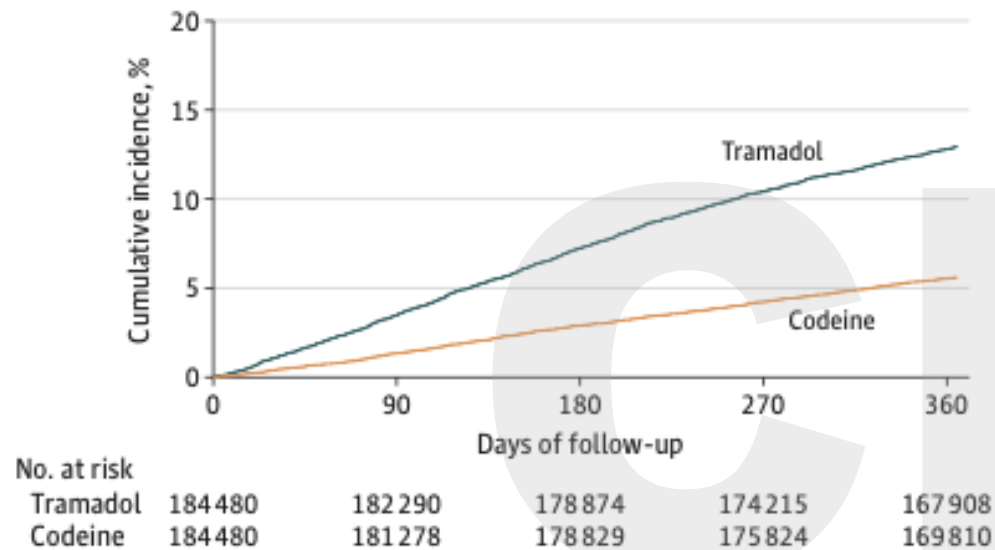
- Neuropsychiatric side effects (agitation, anxiety, hallucinations)
- Active metabolites
- Seizure threshold lowered. Avoid in pts with seizure risk (stroke, TBI)
- Serotonin syndrome
- Drug interactions

There are safer options than tramadol if you want to prescribe an opioid

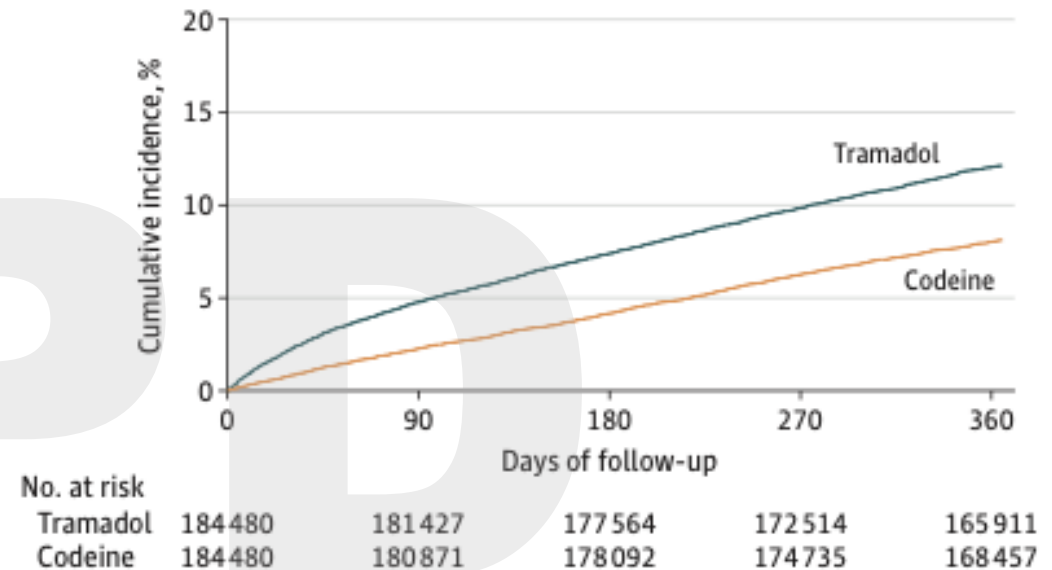
TRAMADOL VS CODEINE

2021 propensity score matched retrospective cohort study of Spanish adults over 18 prescribed tramadol or codeine (surrogate for traditional opioids)

A All-cause mortality



D Fractures



GABAPENTINOLDS

Ex. gabapentin, pregabalin, baclofen

Gabapentin primarily been studied and found effective for the treatment of postherpetic neuralgia and painful diabetic neuropathy; evidence for efficacy in other types of neuropathic pain is limited

Common side effects include:

- Lethargy / somnolence, confusion, vision disturbances, gait imbalance, falls

GABAPENTINIDS

Stick with gabapentin, pregabalin and use for primarily neuropathic pain

Okay to try for other types of pain but may not be first line

Start low, go slow

Not always critical to get to 900mg/day threshold and limited by renal function

Never use with opioids!

MUSCLE RELAXANTS

Baclofen, methocarbamol, tizanidine, cyclobenzaprine, diazepam

Avoid use for patients over 75

Side effects → sedation, falls, headaches, blurred vision (anticholinergic side effects), and dependency

~15% (300,000) of annual prescriptions for skeletal muscle relaxants are given to patients over the age of 65.¹

¹ Dillon C, Paulose-Ram R, Hirsch R, et al. Skeletal muscle relaxant use in the United States: Data from the third National Health and Nutrition Examination 2 Survey (NHANES III) Spine. 2004;29(8):892–896

SNRIS

Duloxetine, venlafaxine, desvenlafaxine, milnacipran

Good for streamlining: used for depression and anxiety and also for chronic pain syndromes

Diabetic peripheral neuropathy, fibromyalgia, and chronic musculoskeletal pain

- Duloxetine has the largest evidence base to support analgesic efficacy, and FDA approved for the treatment of painful diabetic neuropathy, fibromyalgia, chronic low back pain, and osteoarthritis
- Duloxetine contraindicated in GFR <30 (CKD4-5) and severe hepatic impairment

Common side effects nausea, constipation, dizziness, diaphoresis, blood pressure increase, sexual dysfunction, bleeding risk, hyponatremia

TRICYCLIC ANTIDEPRESSANTS

Amitriptyline, doxepin, imipramine, nortriptyline, and desipramine

Avoid use

Highly anticholinergic

Amitriptyline is the most sedating, and also has the most potent anticholinergic effects

ANTICHOLINERGIC SIDE EFFECTS



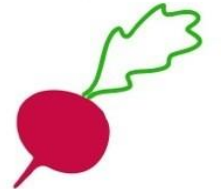
Hot as a hare



Dry as a bone



Blind as a bat



Red as a beet



Mad as a hatter

WHAT ABOUT CANNABIS?

Use in older adults increasing

Dearth of evidence about the efficacy of cannabis in older adults

- All the large studies that evaluated cannabis for pain have included older adults in the inclusion criteria, but their number was small, or they were not analyzed separately for safety and efficacy

Side effects dizziness, dry mouth, nausea, vomiting, fatigue, drowsiness, euphoria, confusion, hallucinations, loss of balance, falls

Do not use in patients with cannabis use disorder or prior or current substance use disorder

Long-term adverse effects not known

OHSU

CPD

TIPS FOR PRESCRIBING

TIPS FOR PRESCRIBING

Be clear about what you are treating and set clear goals for therapy

Start low, go slow

For facilities

- An order is needed for ALL treatments
- All medications must have a specific indication
- Scheduled is generally better than PRN (if it's appropriate)



SCHEDULE OR PRN?

PRN regimen

*Oxycodone 2.5-5mg Q4 PRN
breakthrough pain (mild-moderate =
2.5mg; severe = 5mg)*

Can write for a dose range but will need
to specify when to give what dose for
SNF, LTC

Always check on how often the person is
using the PRN dose (ie. MAR, facility
med record)

Scheduled regimen

*Oxycodone 2.5mg TID for hip fracture
pain*

Include hold parameters for sleepiness,
sedation

Do not write for a dose range

Always include an additional order for
PRN for breakthrough pain



You are never alone in caring
for older adults
Don't forget pharmacists, nurses,
occupational and physical
therapists, psychologists, family
and caregivers

OHSU

Thank you!

Questions?

kalin@ohsu.edu

CPD