PACE Pharmaceutical Assistance Contract for the Elderly

Alosa Health
Balanced information for better care

Managing chronic non-cancer pain

Evidence-based strategies to reduce opioid use

pennsylvania DEPARTMENT OF AGING

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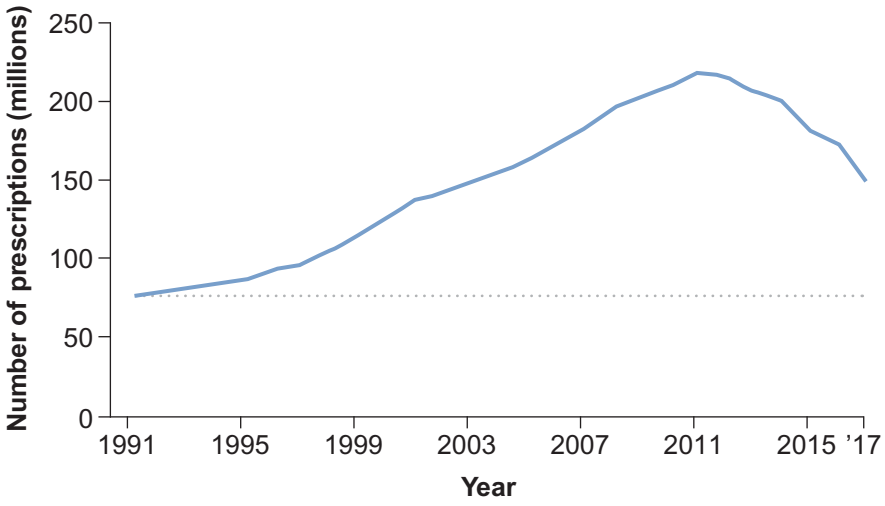
Prescribing opioids for chronic pain can lead to addiction, diversion, and overdose

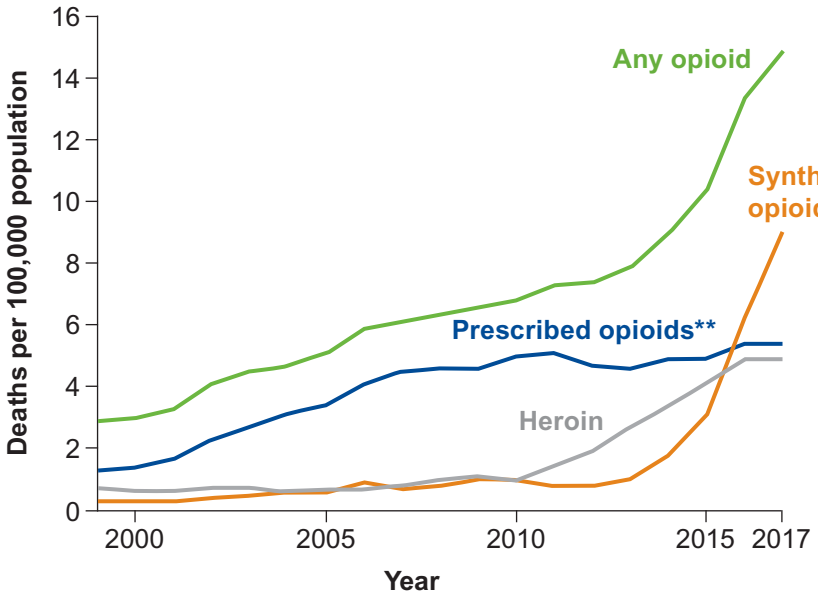
FIGURE 1. Opioid prescriptions have tripled since the early 1990s and continue to remain high despite recent decreases in prescribing.[1,2]



In 2017, there were still 58 opioid prescriptions written for every 100 Americans. The average duration was 18 days.[3]

Evidence of harm from opioids continues to grow.

FIGURE 2. Opioid-related overdose deaths continue to rise dramatically.[4]



*e.g., fentanyl, tramadol
**natural and semi-synthetic opioids and methadone

For every 100 patients taking an opioid chronically:[5]

- 8 were found to abuse opioids
- 26 were found to be dependent

Opioid overdose death includes deaths from heroin and synthetic opioids such as fentanyl, but as many as 75% of these patients began with prescription opioids.[6]

Evidence-based approaches to managing four chronic pain syndromes

Clinical trials clarify the efficacy of treatment alternatives.

TABLE 1. Strength of the evidence for drug and non-drug options

	INTERVENTION	Osteoarthritis	Low back pain	Diabetic neuropathy	Fibromyalgia
NON-DRUG OPTIONS	**exercise**	●	●	⊘	●
	physical therapy	●	⊘	⊘	⊘
	tai chi	●	●	○	●
	weight loss	○	○	⊘	●
	yoga	●	●	⊘	○
	acupuncture	●	●	○	○
	massage	●	●	○	●
	TENS*	○	○	○	○
	cognitive behavioral therapy	⊘	●	○	●
	mindfulness meditation	○	●	○	○
	self-management	●	●	⊘	○
DRUG OPTIONS	**acetaminophen**	●	○	⊘	⊘
	NSAIDs—oral	●	●	⊘	⊘
	NSAIDs—topical	●	⊘	⊘	⊘
	duloxetine (Cymbalta, generics)	●	●	●	●
	tricyclic antidepressants (TCAs)	⊘	●	●	○
	pregabalin (Lyrica, Lyrica CR)	●	○	●	●
	gabapentin (Neurontin, generics)	⊘	○	○	●
	topical lidocaine (Lidoderm, generics)	○	⊘	●	⊘
	medical marijuana	⊘	⊘	●	○
	opioids	●	●	●	●

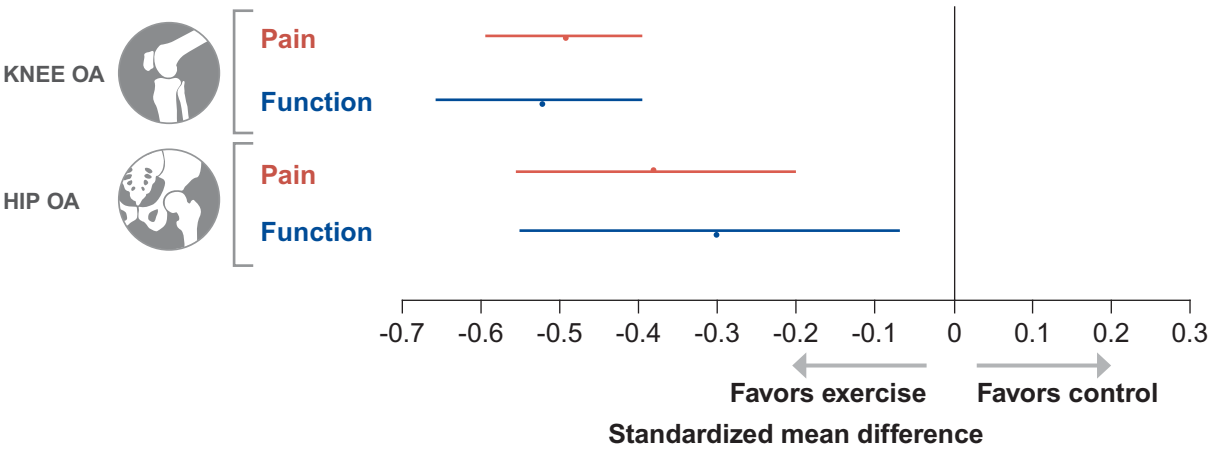
Risk/benefit: ● = favorable; ● = potentially favorable; ● = unfavorable; ○ = neutral; ⊘ = not studied

***TENS:** transcutaneous electrical nerve stimulation

Osteoarthritis (OA)

Exercise is one of the most effective options for managing OA

FIGURE 3. Systematic reviews of randomized trials for hip and knee OA showed that exercise reduces pain and improves function. Most trials lasted 8 weeks, but some had follow-up at 30 months.[7,8]



Many of the exercises studied can be done independently at home or as part of group programs. Examples include:

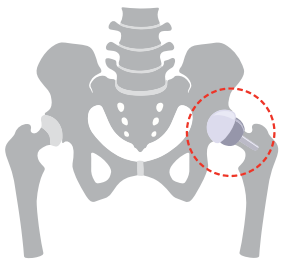
- walking
- cycling
- resistance bands
- free weights
- physical therapy
- and more

Massage,

either from a licensed massage therapist or self-massage, moderately reduced osteoarthritis pain in seven randomized controlled trials.[9]

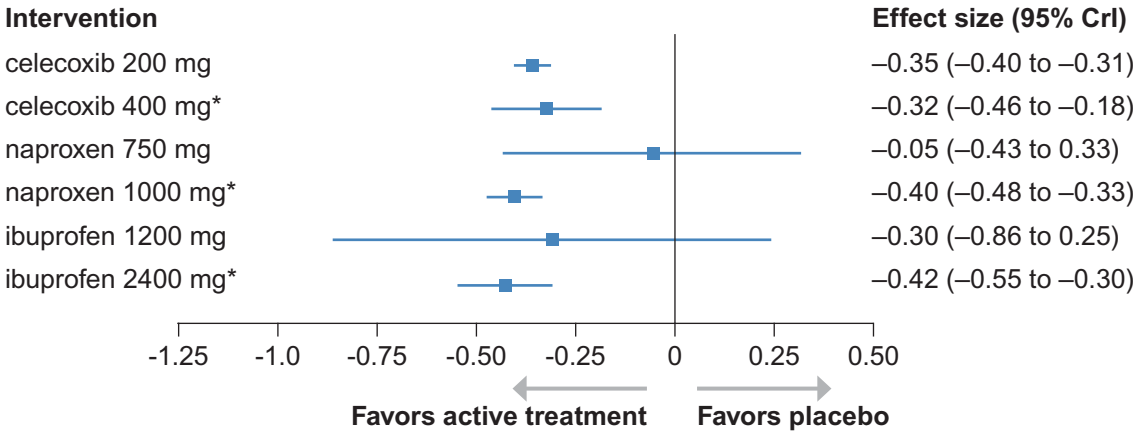
Joint replacement

may be the most effective treatment for many patients with severe osteoarthritis of the hip or knee. It can eliminate pain and obviate the need for ongoing, lifelong drug therapy.



NSAIDs are an effective treatment for osteoarthritis, which is increasingly understood to have an inflammatory component.

FIGURE 4. Selective and non-selective NSAIDs have similar efficacy, but response differs by dose.[10]

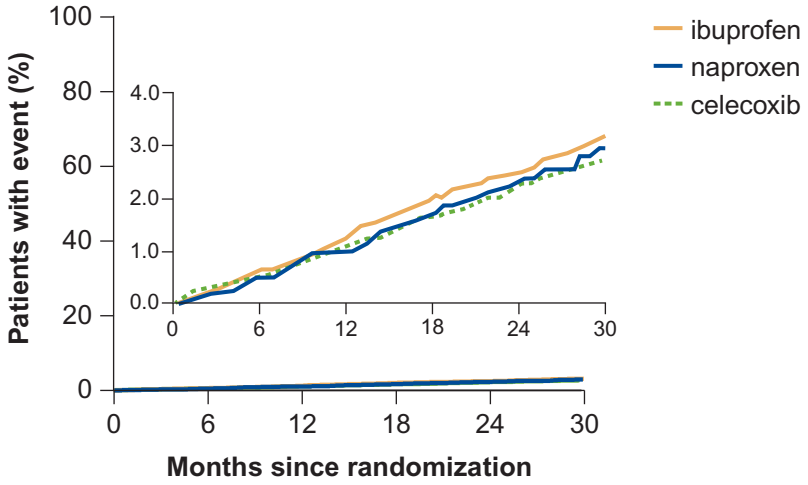


*Maximum approved daily dose

Topical NSAIDs are as effective for pain and function as oral NSAIDs after 1 year of treatment.[11]

While NSAIDs can increase the risk of cardiovascular events and gastrointestinal bleeding, they may be the best choice for many.

FIGURE 5. PRECISION, a large, randomized controlled trial, found no difference in cardiovascular outcomes between celecoxib, naproxen, and ibuprofen.[12]



Celecoxib appears at least as safe as the non-selective NSAIDs for cardiac risk, with a slightly lower risk of GI bleeding than either ibuprofen and naproxen and fewer renal adverse effects than ibuprofen.

Adding a proton pump inhibitor to any NSAID, including celecoxib, reduces the risk of GI bleed.

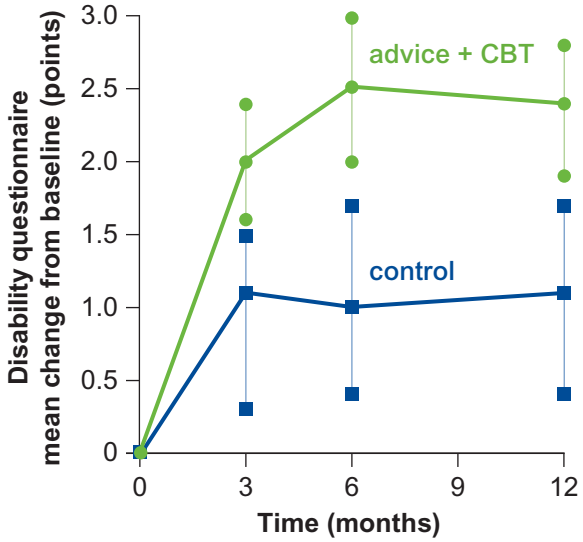
Chronic low back pain

The benefit of cognitive behavioral therapy (CBT) for pain reduction can extend beyond the intervention itself.

FIGURE 6. CBT delivered during six group sessions improved back pain disability scores vs. control groups, both during the intervention and through a 12-month follow-up.[13]

CBT is a structured intervention focused on:

- how thoughts, beliefs, attitudes, and emotions influence pain
- highlighting the patient's role in controlling and adapting to pain
- goal setting, often with recommendations to increase activity to reduce the sense of helplessness



Tai chi: a mind-body exercise

TABLE 2. After patients were randomized to 10 weeks of tai chi classes, a larger fraction had a ≥30% benefit in pain scores or function, compared to wait-list controls.[14]

	tai chi (n=80)	control (n=80)	p-value
Pain improvement	46%	15%	<0.001
Function improvement	50%	24%	

For every 4 people doing tai chi for 10 weeks, 1 person will benefit — a favorable ratio.

"Chair tai chi" is available for more frail older patients.

NSAIDs work as well as opioids, or better, for low back pain or OA

The first large-scale, year-long, randomized trial of opioids for chronic pain confirmed they are *not* a superior choice.[15]

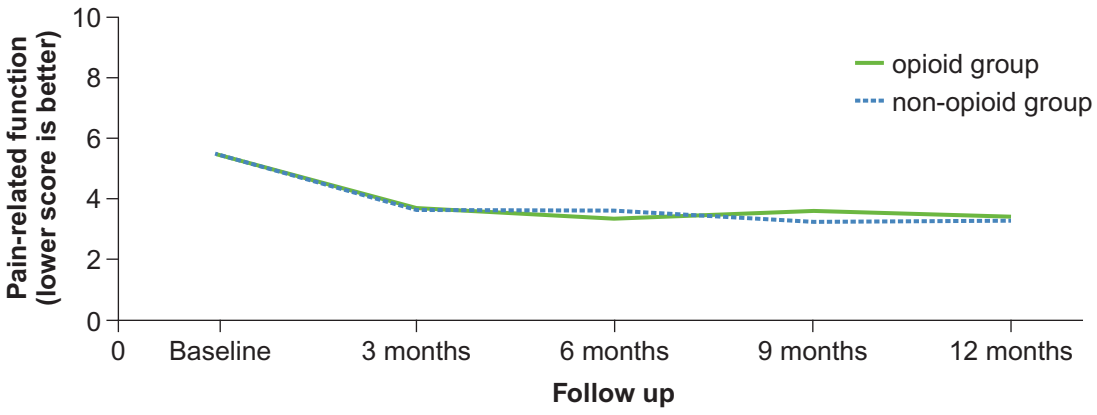
TABLE 3. The 2018 Strategies for Prescribing Analgesics Comparative Effectiveness (SPACE) trial compared opioid and non-opioid approaches.*

	OPIOID	NON-OPIOID
STEP 1	morphine, oxycodone, hydrocodone/acetaminophen (immediate release)	acetaminophen or NSAIDs
STEP 2	2 morphine or oxycodone (sustained release)	nortriptyline, gabapentin, capsaicin, lidocaine, amitriptyline
STEP 3	fentanyl patch	pregabalin, duloxetine, tramadol

*Other non-drug treatment options were permitted, including physical therapy, massage, and joint replacement.

Pain-related function did not differ between the groups.

FIGURE 7. Among 240 veterans with moderate to severe chronic pain, Brief Pain Inventory (BPI) function scores were virtually identical between the two treatment groups.



Opioid prescriptions were not as effective and caused more side effects.

- Pain intensity scores were actually better in the non-opioid group than in the opioid group (41% vs. 54%, respectively; p=0.05).
- Patients randomized to the opioid group had significantly more medication-related symptoms over 12 months (p=0.03).

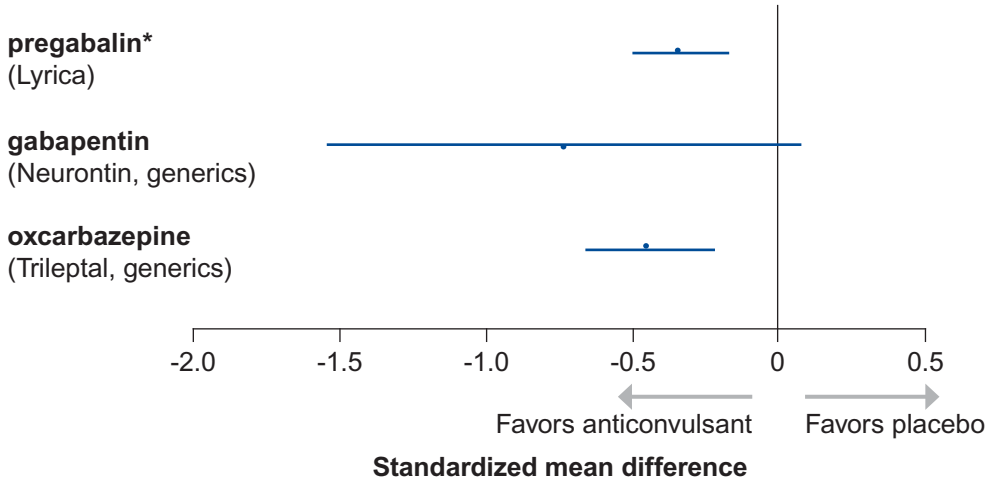
Diabetic neuropathy

NON-DRUG OPTIONS

There is little compelling evidence for long-term benefit with non-drug interventions.[16]

DRUG OPTIONS

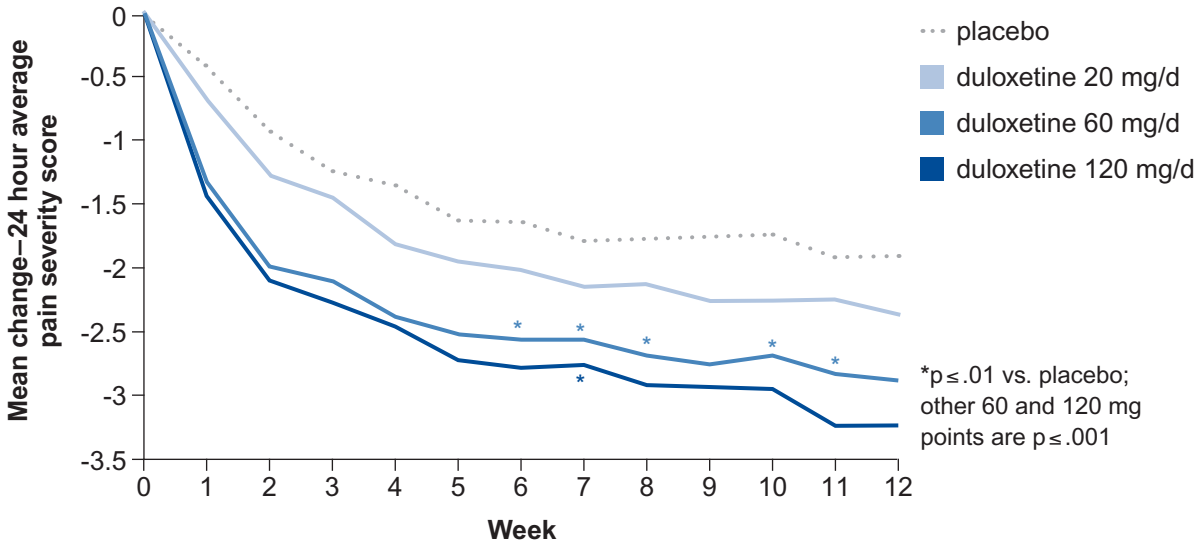
FIGURE 8. Anticonvulsants effectively reduce neuropathic pain compared to placebo.[17]



*Pregabalin doses should be titrated to 300 mg per day, since lower doses were no different from placebo.[18]

Expert guidelines recommend pregabalin, duloxetine (Cymbalta), or gabapentin.[16]
There is rarely a reason to use opioids to treat diabetic neuropathy.

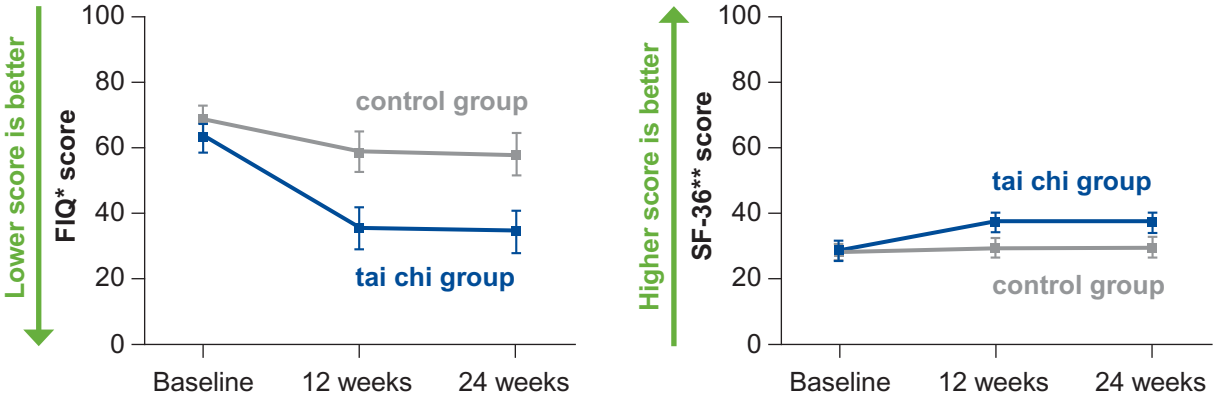
FIGURE 9. Duloxetine reduced pain more than placebo over 12 weeks. Dose >60 mg significantly lowered pain scores, but doses of 120 mg daily produced higher rates of side effects including nausea, dizziness, and dry mouth.[19]



Fibromyalgia

NON-DRUG OPTION

FIGURE 10. A trial of 24 sessions of tai chi over 12 weeks vs. "stretching" for controls found that patients randomized to tai chi had less pain by the end of the intervention and beyond. Function also improved during the intervention.[20]



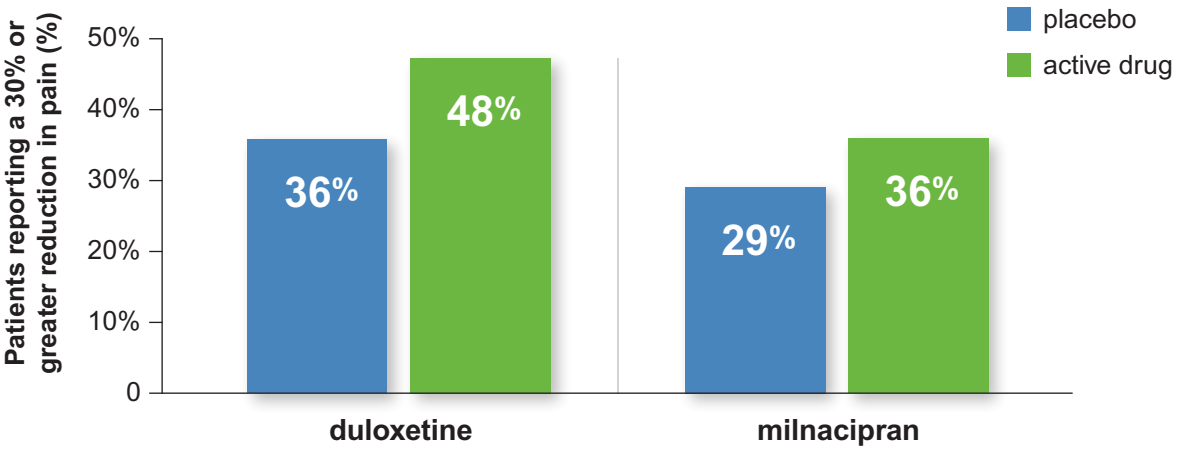
12 weeks = intervention end | **24 weeks =** post-intervention follow-up

*Fibromyalgia Impact Questionnaire **Medical Outcomes Study 36-Item Short-Form Health Survey

DRUG OPTIONS

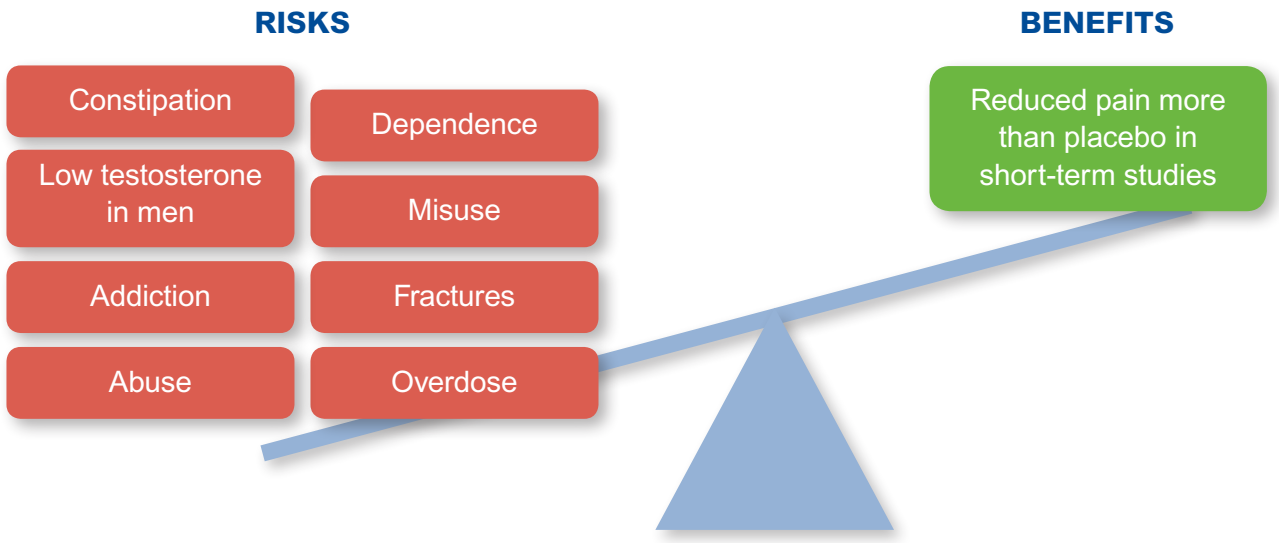
Serotonin-Norepinephrine Reuptake Inhibitors

FIGURE 11. In trials lasting <12 weeks, both duloxetine and milnacipran were more likely to reduce pain by at least 30% compared to placebo, but no trials directly compared these two drugs. More patients stopped milnacipran due to side effects.[21]



In rare circumstances, opioid use may sometimes be necessary for chronic pain

Re-assess the benefits and risks of opioid use at every visit.[22-27]



Opioids are not more effective in improving pain than NSAIDs or tricyclic antidepressants (TCAs), or in improving function compared to NSAIDs, TCAs, and anticonvulsants.[28]

Work with the patient to explain why opioid risks usually exceed benefits for chronic non-cancer pain. See **AlosaHealth.org/Opioids** for a patient education tool that can help with this.

If no other alternatives work, and in the rare circumstances in which opioids are required:

1. Establish clear ***functional*** goals with the patient; explain that the goal may not be the total absence of discomfort.
2. Create a written treatment agreement.
3. Review the risks of opioid use.
4. Be prepared to discontinue opioids if goals are not met.
5. Continue to optimize non-opioid treatment options, both drug and non-drug.

Managing chronic pain patients who are already taking opioids

Check the prescription drug monitoring program (PDMP).

- Look for drugs obtained from other prescribers, or co-prescribed benzodiazepines.

Use drug screens.

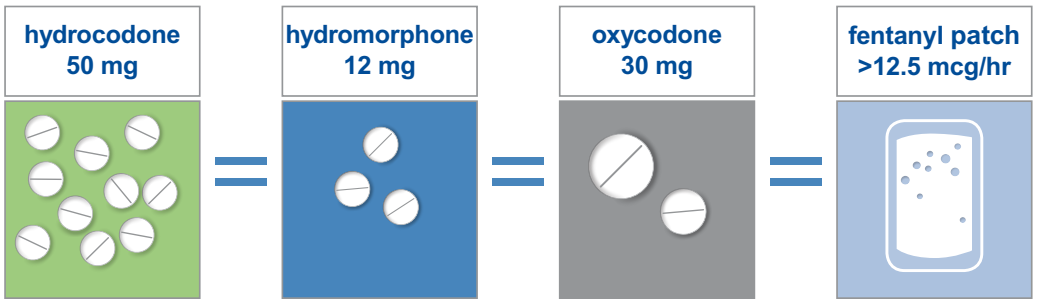
- Tips for interpreting urine drug screens and more are at **mytopcare.org**.

Ask patients if they use opioids other than as prescribed.

- In patients with misuse, use the Screening, Brief Intervention and Referral to Treatment (SBIRT) tool to identify and refer patients with possible opioid use disorder. See **AlosaHealth.org/Opioids** for a link to an SBIRT tool.

Use caution with opioid doses above 50 MMED*, which increases the risk of overdose.

50 morphine milligram equivalents translates to:



Opioid dose calculator available at: tinyurl.com/ycgnmarl

Recommend naloxone to reduce overdose risk.

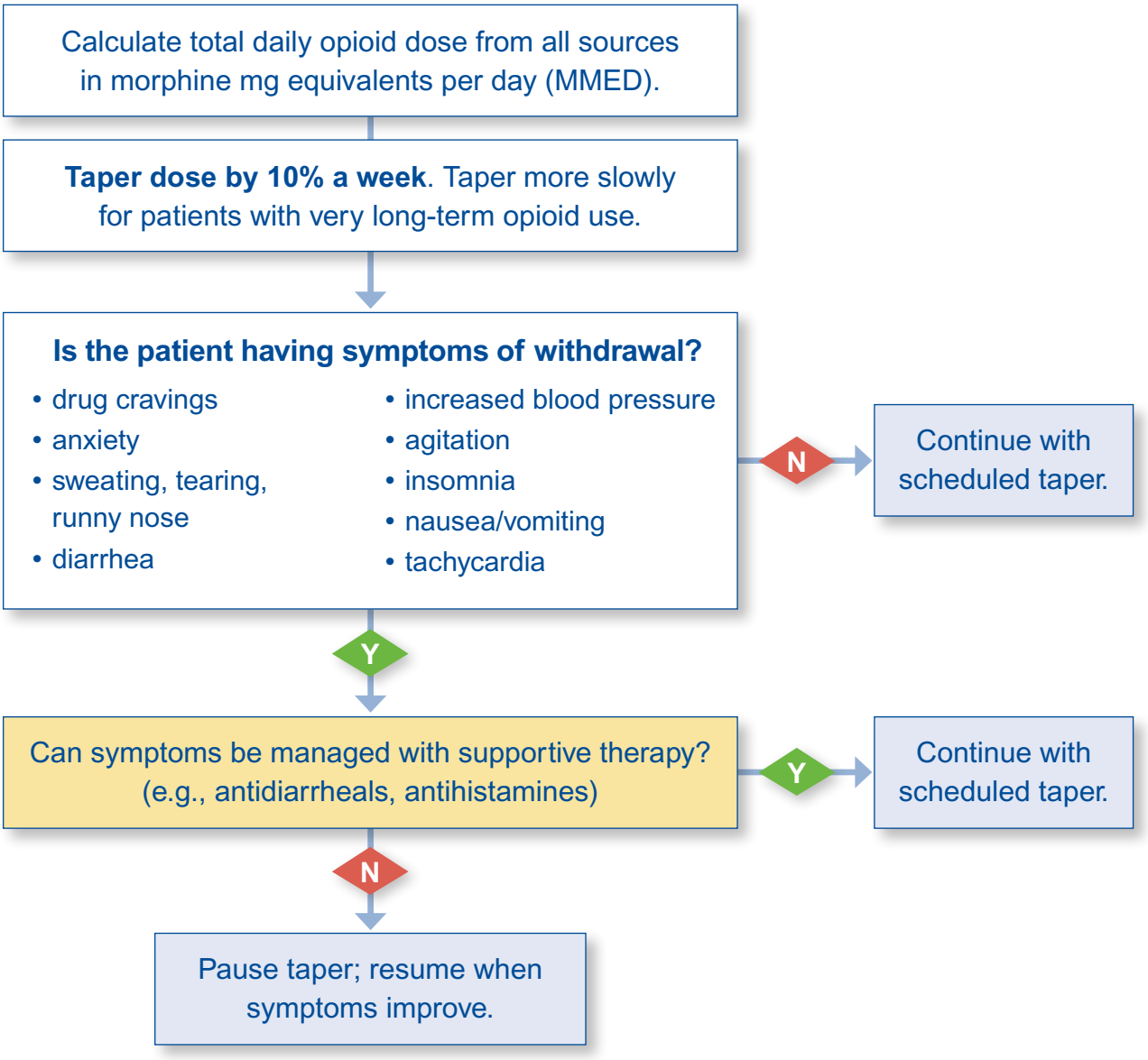
Taper or discontinue opioids while optimizing non-opioid treatment options.

***MMED:** morphine milligram equivalents per day

Putting a taper into action

Discuss reducing or discontinuing opioids with the patient at every visit. Enlist the patient in this goal, and develop a collaborative plan to lower the opioid dose.

FIGURE 12. Algorithm for tapering opioids[29]



Reducing opioid doses

Tips for tapering[30,31]

1 Go slow

- Patients who have been taking opioids for a long time may find slower tapers easier.
- Remind patients that returning to a higher dose increases the risk of overdose.

2 Personalize the plan

- Adjust taper based on the patient's response to the dose reduction.
- Add non-opioid, evidence-based treatment alternatives.

3 Consult with experts as needed

- Discuss concerns with specialists if patients show signs of opioid use disorder (OUD) during a taper.

4 Address mental health needs

- Engage psychosocial supports when possible to assist with tapering.
- Monitor for and manage emerging signs of anxiety and depression.

5 Encourage patients

- While pain may increase in the short term, patients who reduce doses of opioids have better function in the longer term.
- Tell patients "I'll stick by you through this."
  - — Alleviate concern that reducing or stopping opioids is denying treatment.
  - — Provide support and manage pain along with other chronic conditions.

Abrupt discontinuation of long-term opioids can cause withdrawal symptoms and result in patient harm.

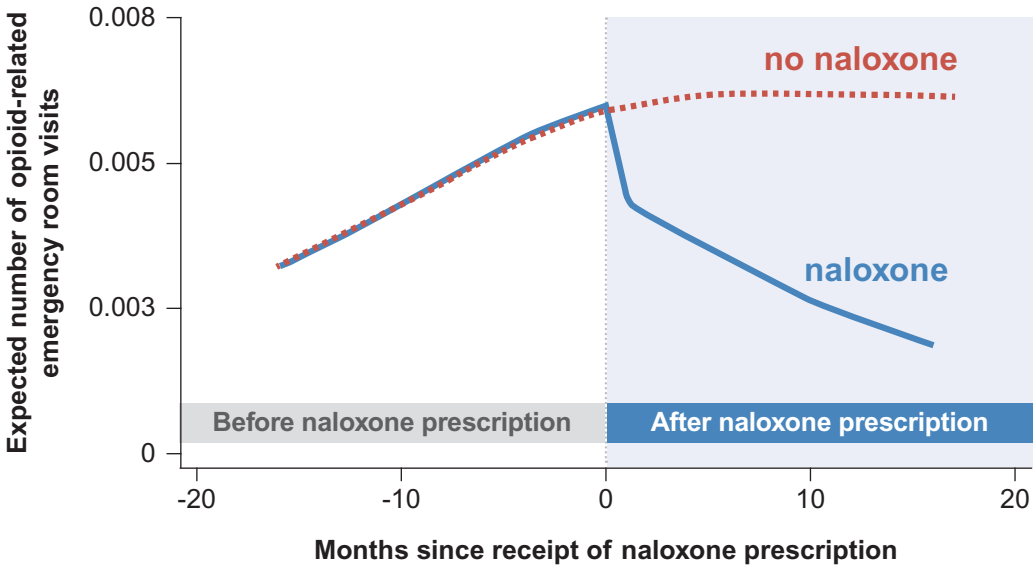
Naloxone can prevent overdose death

Recommend it for all patients at risk:[29,32]

- opioid dose >50 MMED
- renal or hepatic dysfunction
- co-prescribed benzodiazepines or other sedatives
- patient smokes or has COPD, asthma, or sleep apnea
- current or history of substance use disorder, or overdose
- recent incarceration and resulting loss of tolerance
- reduction in dose of opioids (loss of tolerance)

STANDING ORDERS:
Pennsylvania, Illinois, and many other states have statewide orders that allow patients or family members to obtain naloxone directly from a pharmacist without a prescription.

FIGURE 13. After training on prescribing naloxone in six clinics, nearly 40% of patients taking long-term opioids received naloxone, with 63% fewer emergency room visits after one year than projected.[33]



Commonly prescribed naloxone products

Narcan

- nasal spray
- lower cost

Evzio

- injector
- voice-prompted administration
- expensive

FDA has approved a generic version of intranasal naloxone, which may become available in 2020.

Key messages

- **Work with the patient to formulate a pain management plan** that includes clear ***functional*** goals and realistic expectations.
- **For patients not currently taking opioids, select evidence-based treatments** (non-drug and/or non-opioid drug) based upon the underlying diagnosis.
  - Begin with evidence-based non-drug options, such as CBT, exercise, massage, acupuncture, or tai chi
  - Then maximize non-opioid drug options, such as acetaminophen, NSAIDs, SNRIs, or anticonvulsants.
- **For patients taking chronic opioids, discuss the risks of opioids at each visit.**
  - Carefully monitor opioid use, related adverse events (mental status change, constipation, sexual dysfunction in men), and evidence of dependence or misuse.
  - Use caution when escalating patients above 50 mg MMED and carefully reassess all doses beyond 90 mg MMED, which carry a heightened risk of overdose or death.
- **Recommend naloxone for patients with risk factors for overdose.**
- **Taper and discontinue opioids whenever possible,** particularly in patients who have severe side effects or problematic behavior.
- **Identify patients with opioid use disorder;** initiate medication-assisted treatment or refer to a specialist.

More information is available at AlosaHealth.org/Opioids.

References:

(1) Volkow N.D. 2014; https://archives.drugabuse.gov/testimonies/2014/americas-addiction-to-opioids-heroin-prescription-drug-abuse. Accessed 1 Jul 2019. **(2)** Centers for Disease Control and Prevention. 2018; cdc.gov/drugoverdose/maps/rxrate-maps.html. Accessed 1 Jul 2019. **(3)** Centers for Disease Control and Prevention. 2018. cdc.gov/drugoverdose/data/prescribing.html. Accessed 1 Jul 2019. **(4)** Opioid Data Analysis. 2017; cdc.gov/drugoverdose/data/analysis.html. Accessed 17 Oct 2017. **(5)** Chou R, Turner JA, Devine EB, et al. *Ann Intern Med*. 2015;162(4):276-286. **(6)** Cicero TJ, Ellis MS, Surratt HL, Kurtz SP. *JAMA Psychiatry.* 2014;71(7):821-826. **(7)** Fransen M, McConnell S, Harmer AR, Van der Esch M, Simic M, Bennell KL. *Cochrane Database Syst Rev.* 2015;9(1). **(8)** Fransen M, McConnell S, Hernandez-Molina G, Reichenbach S. *Cochrane Database Syst Rev.* 2014;22(4). **(9)** Nelson NL, Churilla JR. *Am J Phys Med Rehabil*. 2017;96(9):665-672. **(10)** da Costa BR, Reichenbach S, Keller N, et al. *Lancet*. 2017;390(10090):e21-e33. **(11)** Underwood M, Ashby D, Cross P, et al. *BMJ.* 2008;336(7636):138-142. **(12)** Nissen SE, Yeomans ND, Solomon DH, et al. *N Engl J Med*. 2016;375(26):2519-2529. **(13)** Lamb SE, Hansen Z, Lall R, et al. *Lancet*. 2010;375(9718):916-923. **(14)** Hall AM, Maher CG, Lam P, Ferreira M, Latimer J. *Arthritis Care Res*. 2011;63(11):1576-1583. **(15)** Krebs EE, Gravely A, Nugent S, et al., The SPACE Randomized Clinical Trial. *JAMA*. 2018;319(9):872-882. **(16)** Pop-Busui R, Boulton AJ, Feldman EL, et al. *Diabetes care.* 2017;40(1):136-154. **(17)** Waldfogel JM, Nesbit SA, Dy SM, et al. *Neurology.* 2017;88(20):1958-1967. **(18)** Lesser H, Sharma U, LaMoreaux L, Poole RM. *Neurology.* 2004;63(11):2104-2110. **(19)** Goldstein DJ, Lu Y, Detke MJ, Lee TC, Iyengar S. *Pain.* 2005;116(1-2):109-118. **(20)** Wang C, Schmid CH, Rones R, et al. *N Engl J Med.* 2010;363(8):743-754. **(21)** Welsch P, Üçeyler N, Klose P, et al. *Cochrane Database Syst Rev.* 2018;2:CD010292. **(22)** Furlan AD, Sandoval JA, Mailis-Gagnon A, Tunks E. *CMAJ.* 2006;174(11):1589-1594. **(23)** Chou R, Turner JA, Devine EB, et al. *Ann Intern Med*. 2015;162(4):276-286. **(24)** Deyo RA,Smith DH, Johnson ES, et al. *Spine.* 2013;38(11):909-915. **(25)** Dunn KM, Saunders KW, Rutter CM, et al. *Ann Intern Med.* 2010;152(2):85-92. **(26)** Miller M, Sturmer T, Azrael D, Levin R, Solomon DH. *J Am Geriatr Soc.* 2011;59(3):430-438. **(27)** Tuteja AK, Biskupiak J, Stoddard GJ, Lipman AG. *Neurogastroenterol Motil*. 2010;22(4):424-430, e496. **(28)** Busse JW, Wang L, Kamaleldin M, et al. *JAMA*. 2018;320:2448-2460. **(29)** Dowell D, Haegerich TM, Chou R. *MMWR Recomm Rep.* 2016;65(1):1-49. **(30)** FDA Drug Safety Communication April 9, 2019. fda.gov/drugs/drug-safety-and-availability/fda-identifies-harm-reported-sudden-discontinuation-opioid-pain-medicines-and-requires-label-changes. Accessed 4 Aug 2019. **(31)** Dowell D, Haegerich T, Chou R. *N Engl J Med.* 2019; 380(24):2285-2287. **(32)** Prescribetoprevent.org **(33)** Coffin PO, Behar E, Rowe C, et al. *Ann Intern Med.* 2016;165:245-252.

About this publication

These are general recommendations only; specific clinical decisions should be made by the treating clinician based on an individual patient's clinical condition. More detailed information on this topic is provided in a longer evidence document at AlosaHealth.org.

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This material was produced by Katsiaryna Bykov, PharmD, Sc.D., Instructor in Medicine; Jerry Avorn, M.D., Professor of Medicine (principal editor); Brian Bateman, M.D., M.Sc., Associate Professor of Anesthesia; Michael A. Fischer, M.D., M.S., Associate Professor of Medicine; Jing Luo, M.D., M.P.H., Instructor in Medicine; all at Harvard Medical School; and Ellen Dancel, PharmD, M.P.H., Director of Clinical Materials Development at Alosa Health. Drs. Avorn, Bateman, Fischer, and Luo are physicians at the Brigham and Women's Hospital. None of the authors accepts any personal compensation from any drug company.

Medical writer: Stephen Braun

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