Pain Management & Opioids
A Patient-Centered Approach

www.core-rems.org

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Dr. Karen Muchowski is a board-certified family medicine physician. She attended medical school at the University of California at Davis and finished her Family Medicine Residency at Oregon Health Sciences University. She is interested in pediatrics, women's health and takes a collaborative approach to managing patients with chronic pain.

CAFP
California Academy of Family Physicians

DISCLOSURE:

Dr. Karen Muchowski is a medical advisor and an investor in Defined Research, a company addressing insomnia through use of CBD. This relevant financial relationship has been mitigated.

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ACKNOWLEDGMENTS

Presented by the California Academy of Family Physicians, a member of the CO*RE Collaborative, ten interdisciplinary organizations working together to improve pain management and prevent adverse outcomes. For more information about CO*RE, visit http://core-rems.org/.

This activity is supported by an independent educational grant from the Opioid Analgesics REMS Program Companies (RPC). This activity is intended to be fully compliant with the Opioid Analgesic (OA) REMS education requirements issued by the U.S. Food and Drug Administration. For more information about the Opioid Analgesics REMS, visit https://opioidanalgesicrems.com/RpcUI/products.u.

This course is based on the FDA Education Blueprint (Oct. 2023) and existing guidelines, including the 2022 CDC Clinical Practice Guideline for Prescribing Opioids for Pain.

Scan the QR code to go to the FDA OA REMS Blueprint

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MATE ACT AND STATE REQUIREMENTS

MATE Act

As of June 27, 2023, DEA registrants are to have completed a total of at least 8 hours of training on treatment and management of patients with opioid or other substance use disorders.

Per FDA: *"The continuing education (CE) provided through the OA REMS may be used to satisfy, in part, requirements of the MATE Act, as noted in SAMHSA's Recommendations for Curricular Elements in Substance Use Disorders Training."*

State Requirements

This course also meets many states' requirements for pain education.

https://www.fda.gov/drugs/information-drug-class/opioid-analgesic-risk-evaluation-and-mitigation-strategy-rems

THE CO*RE COLLABORATIVE

This course does not advocate for or against the use of opioids.

We intend to help clinicians manage pain without putting vulnerable patients at risk for nonmedical use of opioids or opioid use disorder. The goal is to keep our patients, our communities, and ourselves SAFE.

CO*RE FACULTY ADVISORY PANEL

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None of the Faculty Advisors, Reviewers, or Planners for this educational activity have relevant financial relationships with ineligible companies to disclose.

LEARNING OBJECTIVES:

1. Recognize the origin(s) and types of pain as they relate to pain management and opioid use disorder (OUD).
2. Fully assess persons experiencing pain, including risk for OUD.
3. Develop safe and effective pain management plans using nonpharmacologic and pharmacologic (non-opioid or opioid) options.
4. Partner with patients to reduce risks when taking opioid therapy.

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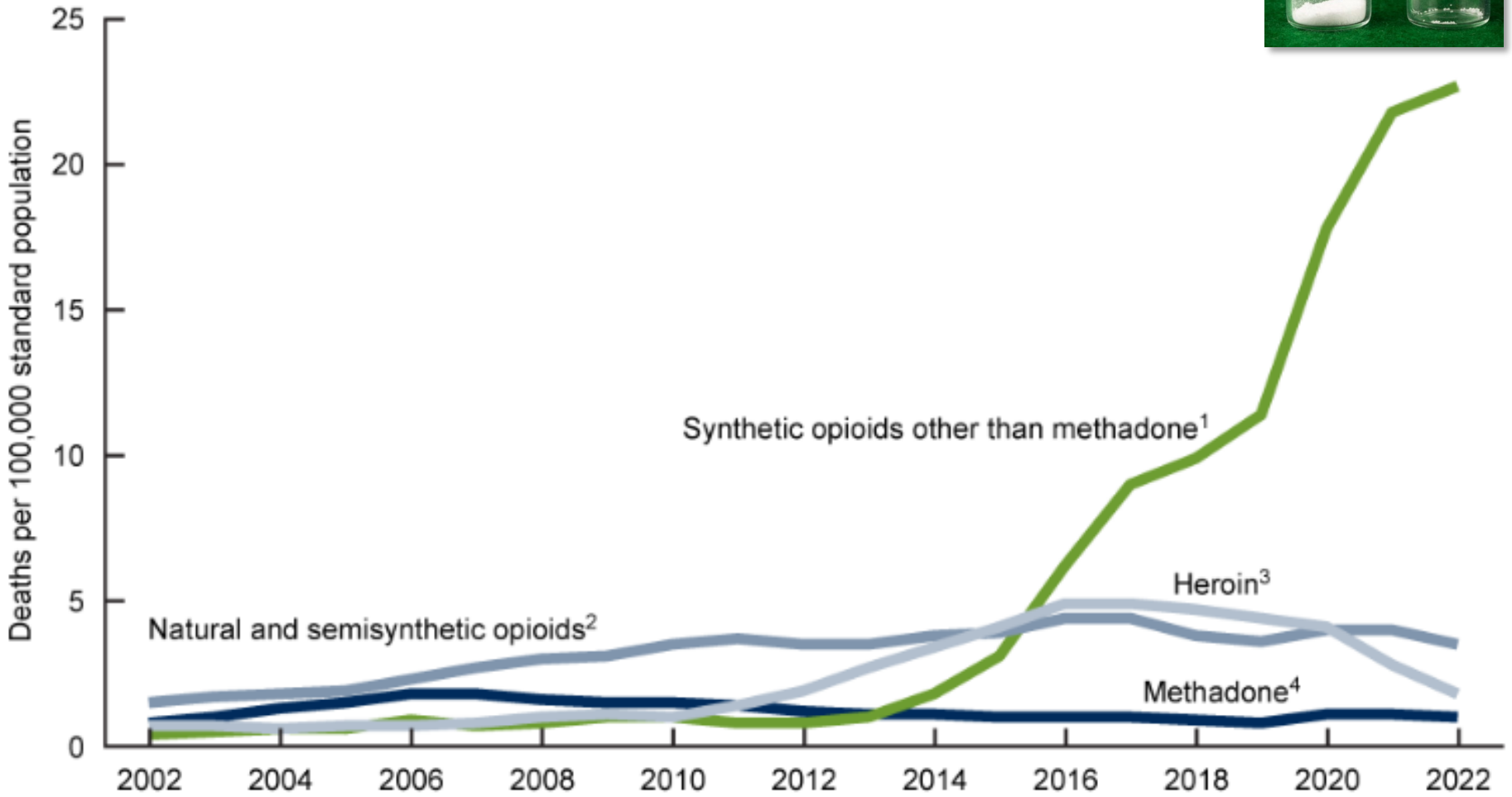
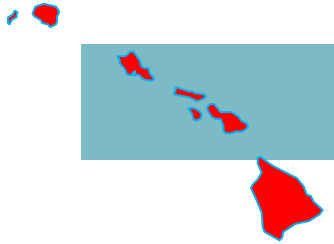
OPIOID OVERDOSE DEATHS BY TYPE OF OPIOID

Figure 4. Age-adjusted rate of drug overdose deaths involving opioids, by type of opioid: US, 2002-2022



https://www.cdc.gov/nchs/products/databriefs/db491.htm#section_4

Opioid Prescribing Rates & Overdose Deaths



Prescribing Rates (per 100 people)

	2020	2021	2022
HI	26.5	25	24

Office of National Drug Control Policy (ONDCP)

Opioid Overdose Deaths Per 100,000 Population

HI 2022	7.1	US 2022	25

https://www.cdc.gov/overdose-prevention/data-research/facts-stats/opioid-dispensing-rate-maps.html
https://www.kff.org/state-category/health-status/opioids/

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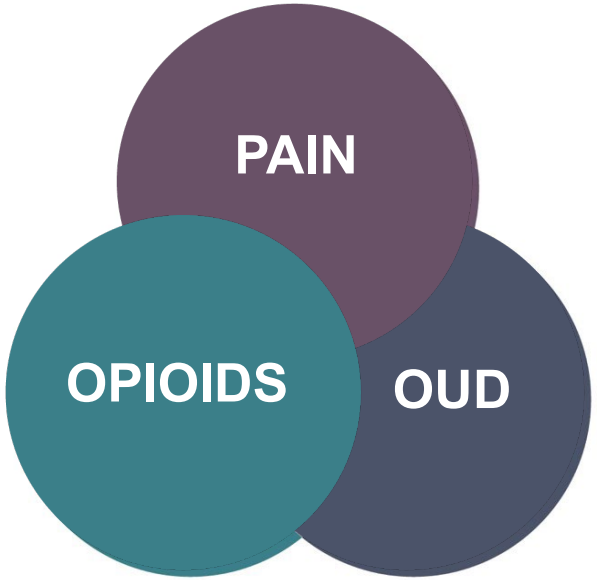
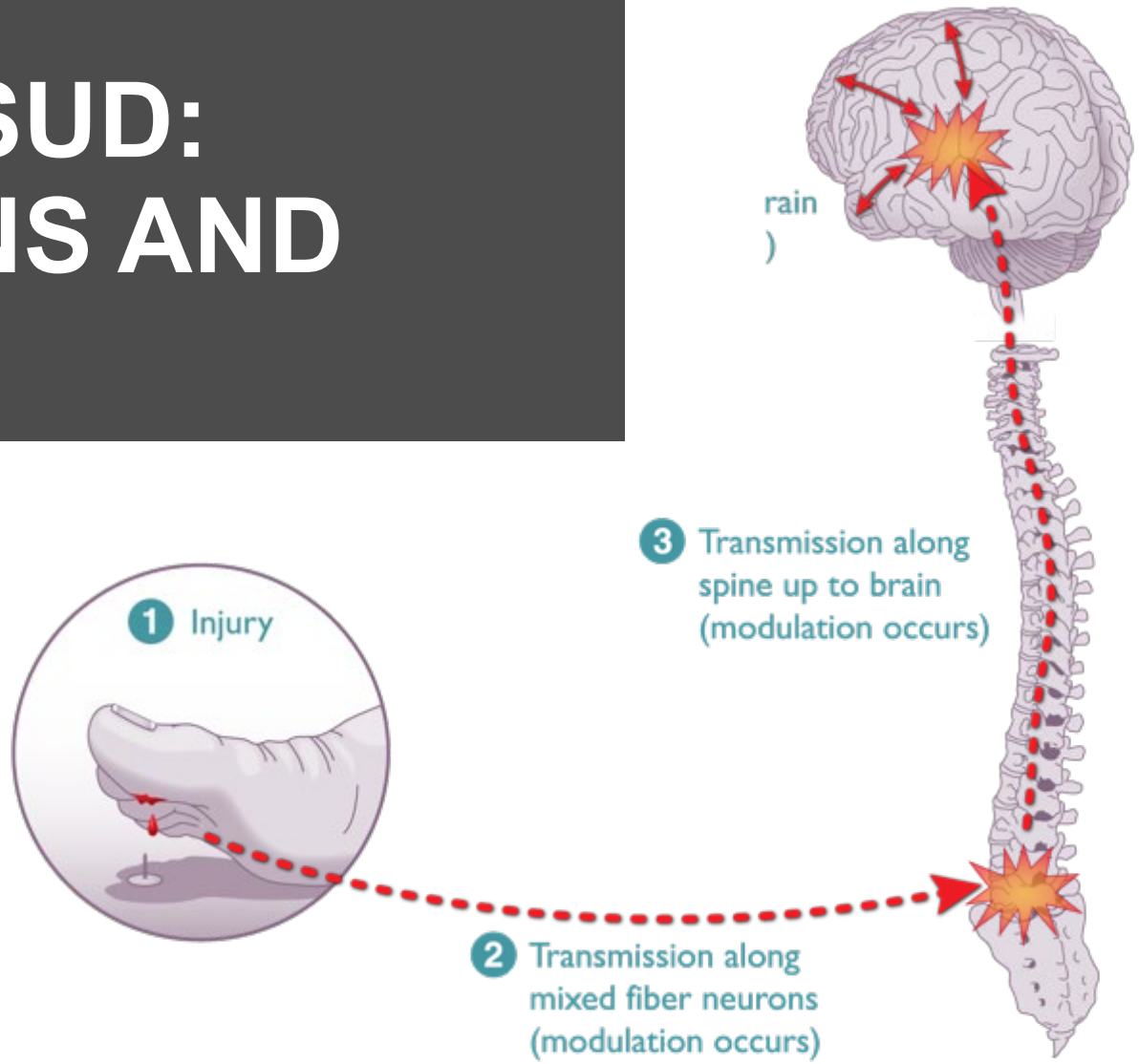
CHAPTER 1
PAIN AND SUD: DEFINITIONS AND BIOLOGY





SUD-substance use disorder. OUD-opioid use disorder.

PAIN

"An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage."

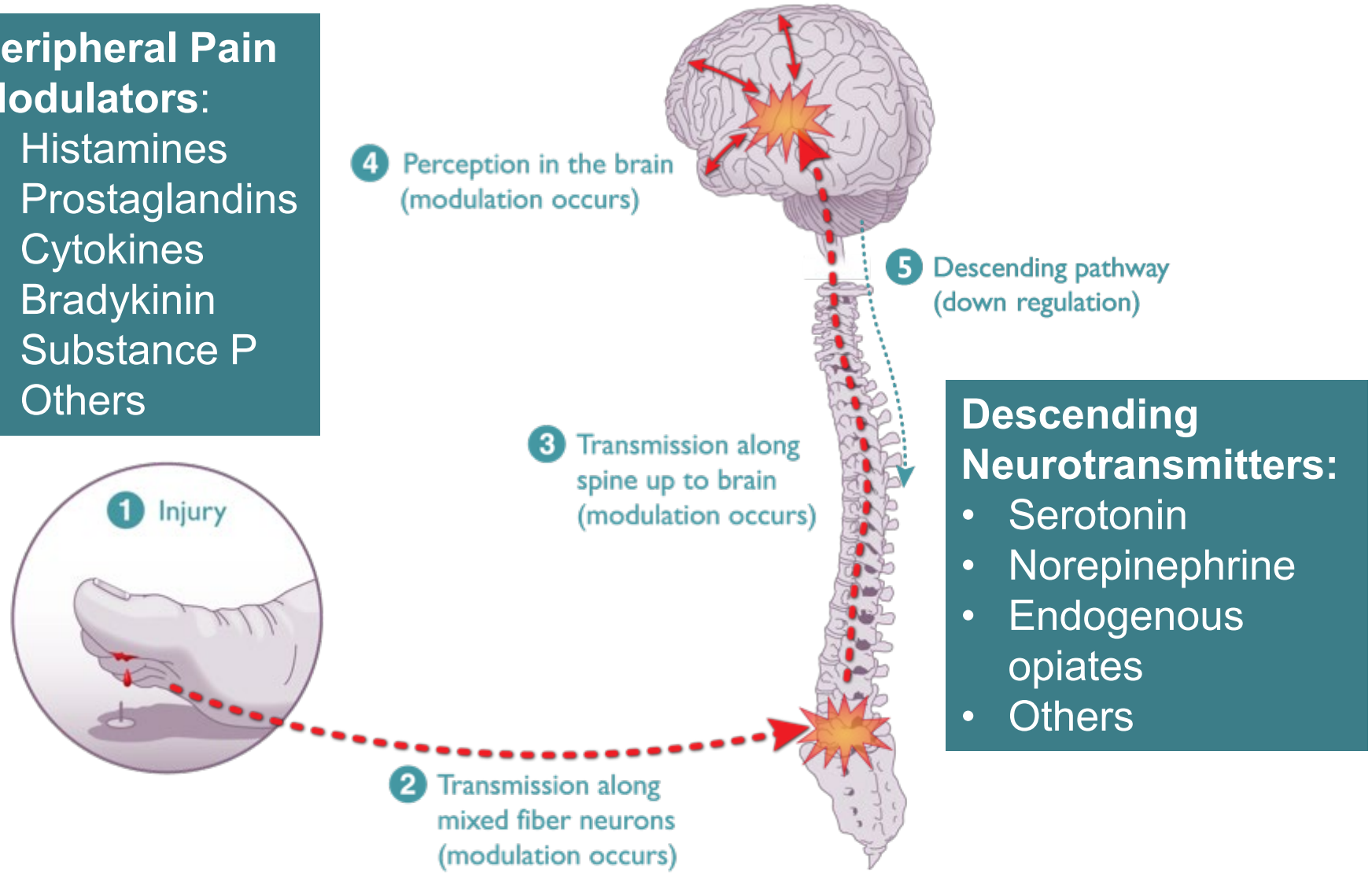
IASP (July 2020)

ACUTE	CHRONIC
• Acute pain duration <1 month • Sudden onset, self-limiting • Ideally resolves with healing • Triggered by tissue damage and inflammation • Has protective value • Inflammatory mediation • **Subacute** (continues for 1-3 months) can become chronic	• Lasting 3 months or longer • Generally steady-state or worsening • Persists beyond normal healing period • Serves no value • Peripheral and central sensitization

THE NEUROMECHANISMS OF PAIN

Peripheral Pain Modulators:

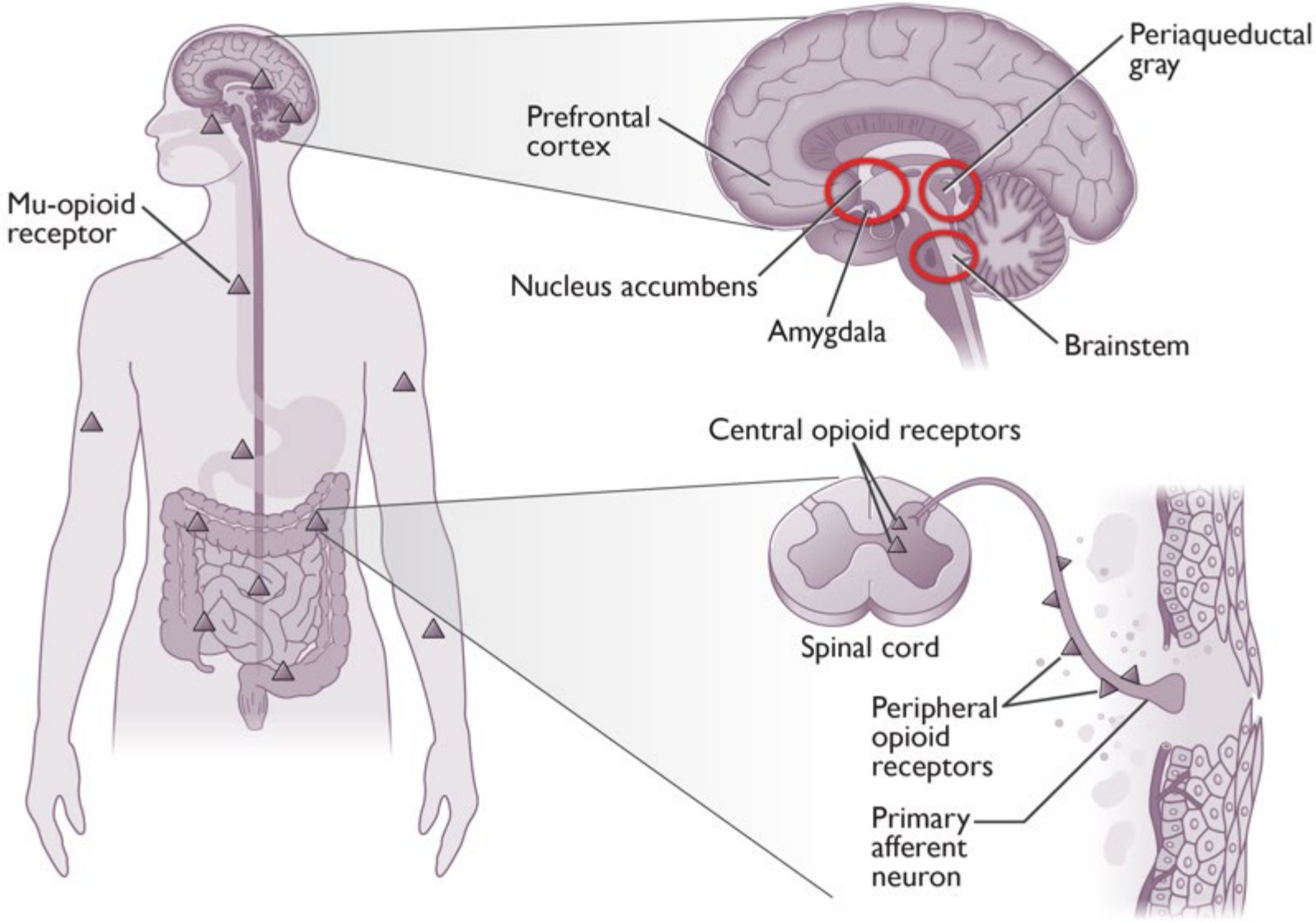
- Histamines
- Prostaglandins
- Cytokines
- Bradykinin
- Substance P
- Others



Descending Neurotransmitters:

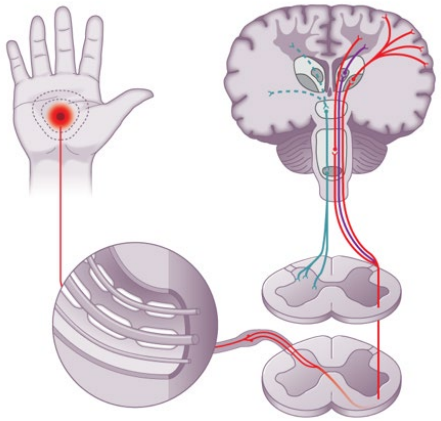
- Serotonin
- Norepinephrine
- Endogenous opiates
- Others

OPIOID RECEPTOR LOCATIONS



TYPES OF PAIN

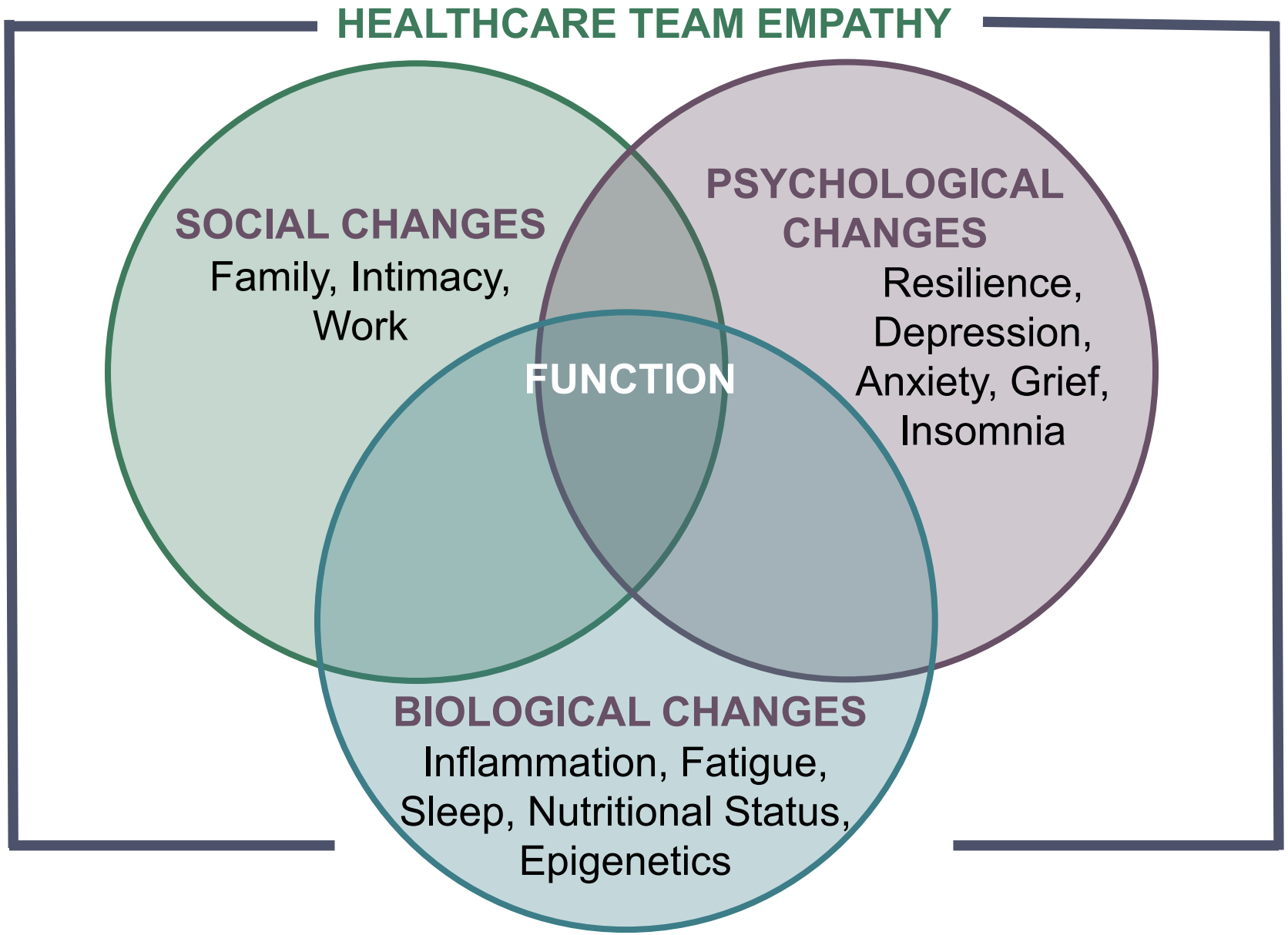
NOCICEPTIVE / INFLAMMATORY	NOCIPLASTIC	NEUROPATHIC	MIXED TYPES (NOCICEPTIVE / NEUROPATHIC)
Response to an injury or stimuli; *typically* acute	Arises from altered nociceptive function; *typically* chronic	Develops when the nervous system is damaged; chronic	Primary injury and secondary effects
Post-operative pain, sports injuries, arthritis, sickle cell disease, mechanical low back pain	Fibromyalgia, irritable bowel syndrome, nonspecific low back pain	Post-herpetic neuralgia, trigeminal neuralgia, distal polyneuropathy, CRPS, neuropathic low back pain	



CHAPTER 2

MULTI-DIMENSIONAL EVALUATION OF THE PATIENT WITH PAIN

THE EXPERIENCE OF PAIN: A BIOPSYCHOSOCIAL MODEL



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ADVERSE CHILDHOOD EXPERIENCES (ACEs): LONG-LASTING EFFECTS ON HEALTH AND WELLBEING

A shift in focus…

from

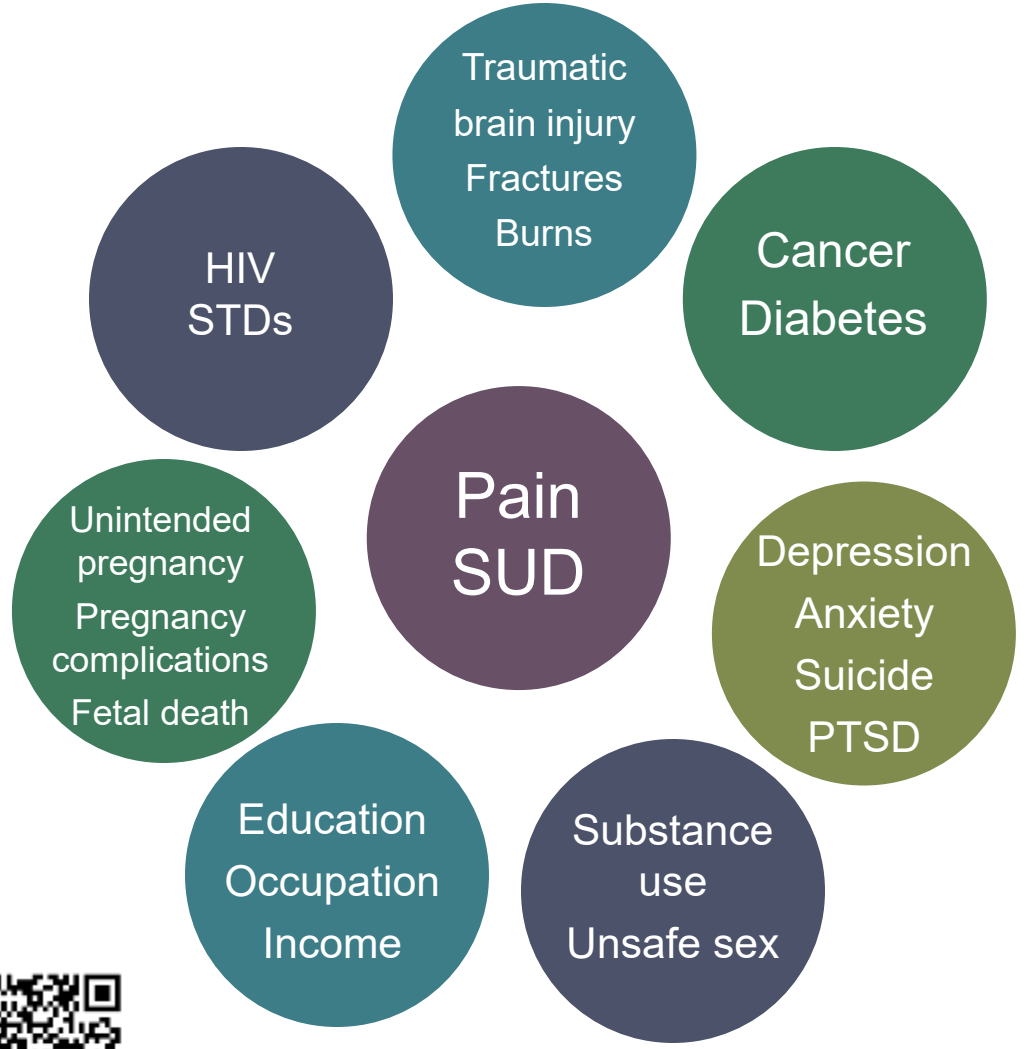
~~*"what's wrong with this patient?"*~~

to

"what happened to this patient?"

"what has been this patient's life experience?"

"what matters to you?"



Scan to view ACEs questionnaire

HOW DO WE INITIATE DISCUSSION WITH A PATIENT?

- **How we talk affects our patients' response to us, our approach to treatment, and patient outcomes**
- Reframe your approach to avoid stigmatizing terms
- Ask permission:

  "Is it okay if I ask you about alcohol or drugs?"

~~*TERMS TO AVOID*~~	**PREFERRED TERM**
~~*Addiction*~~	**Substance use disorder (SUD) or opioid use disorder (OUD)**
~~*Drug-seeking, aberrant behavior*~~	**Using medication not as prescribed**
~~*Addict/user*~~	**Person with a substance use disorder (SUD) or an opioid use disorder (OUD)**
~~*Dirty urine/failing drug test*~~	**Testing positive on a urine drug screen**
~~*Abuse or habit*~~	**Nonmedical or use other than prescribed**
~~*Substance abuse*~~	**Substance use**

https://nida.nih.gov/research-topics/addiction-science/words-matter-preferred-language-talking-about-addiction.
Kelly JF, Westerhoff CM. Int J Drug Policy. 2010 May;21(3):202-207.

HISTORY OF PRESENT ILLNESS

*Scan to view CO*RE Tools*

PRE-SCREENERS COLLECTED IN ADVANCE (PHQ-2/9, BPI)

DESCRIPTION OF PAIN

Location

Intensity

Quality

Onset/ duration

Variations/ patterns/rhythms

WHAT RELIEVES THE PAIN?

WHAT CAUSES OR INCREASES THE PAIN?

PATIENT'S LEVEL OF PAIN AND THE EFFECT OF THE PAIN ON PHYSICAL, EMOTIONAL, AND PSYCHOSOCIAL FUNCTION (eg, PEG, BPI, MPI)

Hogans, B., Barreveld, A. (Eds.). *Pain Care Essentials*, NY, NY: Oxford Univ. Press.2020.

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MEDICAL AND TREATMENT HISTORY

RELEVANT ILLNESSES

NONPHARMACOLOGIC STRATEGIES AND EFFECTIVENESS

PHARMACOLOGIC STRATEGIES AND EFFECTIVENESS

If past or current opioid use:

- Query your state's Prescription Drug Monitoring Program (PDMP) to confirm patient report
- Contact past clinicians and obtain prior medical records
- For opioids currently prescribed, note the opioid, dose, regimen, and duration
- Determine whether the patient is **opioid-tolerant**

BARRIERS TO PREVIOUS TREATMENT STRATEGIES

PRESCRIPTION DRUG MONITORING PROGRAMS (PDMPs)

A NON-PUNITIVE APPROACH TO PRESCRIBING ANALGESIC AGENTS

- Check when initiating opioid therapy, regularly when continuing therapy
- Improves patient communication, education, and safety
  - Confirm PDMP information with patient; do not dismiss from care
  - Identify drugs that increase overdose risk when taken together
  - Provide potentially life-saving information and interventions (safety concerns, provide naloxone)
- Discuss safety concerns with other clinicians
- Lowers rates of prescription opioid-related hospitalization and ED visits
- Most PDMPs allow you to appoint a delegate

Multiple prescriptions from different clinicians is most predictive of nonmedical use of opioids.

https://www.cdc.gov/opioids/healthcare-professionals/pdmps.html

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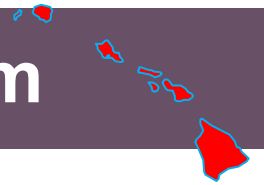
PDMP: Prescription Drug Monitoring Program



General	• **Hawaii Prescription Drug Monitoring Programhttps://hawaii.pmpaware.net/login** Administered by the **Department of Public Safety, Narcotics Enforcement Division** • **Schedule II-IV** are monitored • **Dispensers and prescribers are required** to register and input data • Before prescribing, there **is an obligation** to review under certain circumstances • Prescribers **can authorize** a registered delegate
Reporting	• Must be entered into PDMP **within 7 days** of dispensing • Unsolicited reports/alerts **are not sent** to prescribers and law enforcement • Hawaii **does not share** data with other states' PDMPs • Out-of-state pharmacies **are required** to report to the patient's home state • Patient **will not be notified** if their record has been accessed

https://namsdl.org/doc-library/?fwp_document_type=map January 2019
http://www.pdmpassist.org/content/pdmp-maps-and-tables January 2023

OBTAIN A COMPLETE PSYCHOSOCIAL HISTORY

PSYCHOLOGICAL HISTORY

Screen for:

- Mental health diagnoses, depression, anxiety, PTSD, current treatments (using *PHQ-2, PHQ-9, GAD-7*, etc.)

Depression and anxiety can be predictors of chronic pain

- Alcohol, tobacco, and other drug use
- History of Adverse Childhood Experiences (ACEs) using *ACE Questionnaire*
- Family history of substance use disorder and psychiatric disorders

*Scan to view CO*RE Tools*

SOCIAL DETERMINANTS OF HEALTH (SDOH)

SDOH relate to pain in terms of

- Economic stability
- Education access & quality
- Health care access & quality
- Neighborhood & built environment
- Social & community context

Source/QR code: https://health.gov/healthypeople/priority-areas/social-determinants-health:

OPTIONS TO ASSESS RISK FOR OPIOID USE DISORDER

ORT-OUD Opioid Risk Tool-OUD
DAST Drug Abuse Screening Test
NIDA Single-Question Screening Test (Self-Administered) "How many times in the past year have you used an illegal drug or used a prescription medication for non-medical reasons (for example, because of the experience or feeling it caused)?"
TAPS Tobacco, Alcohol, Prescriptions Medication and Other Substances Tool

Considerations

- All screening questions have limitations (CDC, 2022)
- Tools may not be validated in some populations
- Consider feasibility and resources to support findings
- **Establish a safe environment**

*Scan to view CO*RE Tools*

A CLOSER LOOK AT THE ORT-OUD

Mark each box that applies	YES	NO
Family history of substance abuse		
Alcohol	1	0
Illegal drugs	1	0
Rx drugs	1	0
Personal history of substance abuse		
Alcohol	1	0
Illegal drugs	1	0
Rx drugs	1	0
Age between 16-45 years	1	0
Psychological disease		
ADD, OCD, bipolar, schizophrenia	1	0
Depression	1	0
Scoring totals		

Substance use disorder history does not prohibit treatment with opioids but may require additional monitoring and expert consultation or referral.

Scoring:

≤ 2: low risk

≥ 3: high risk

Scan to view ORT-OUD Video

Cheatle, M., Compton, P.A., et al. *J Pain* 2019; Jan 26.

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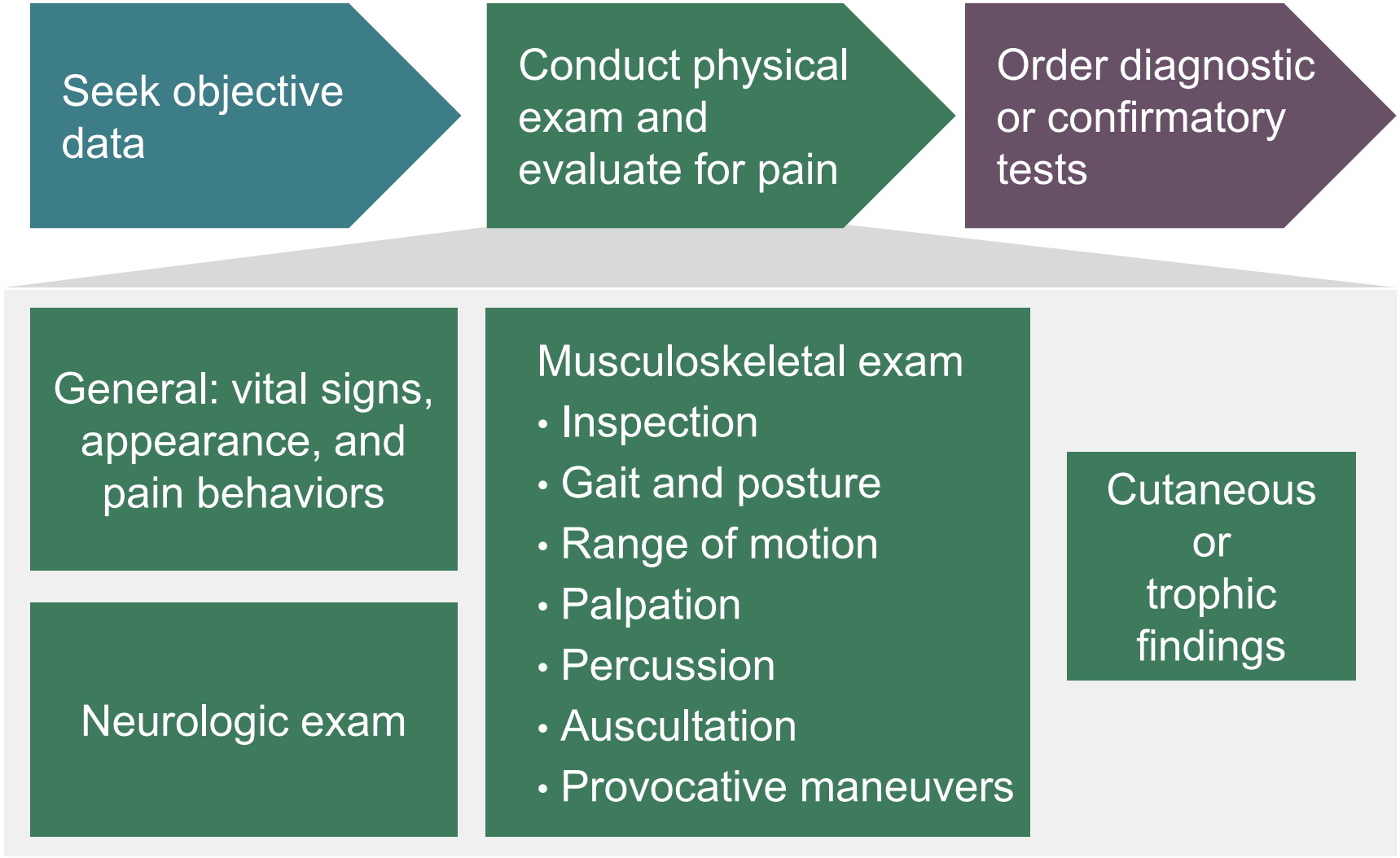
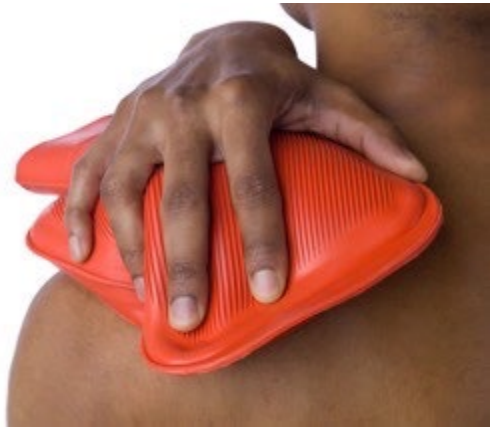
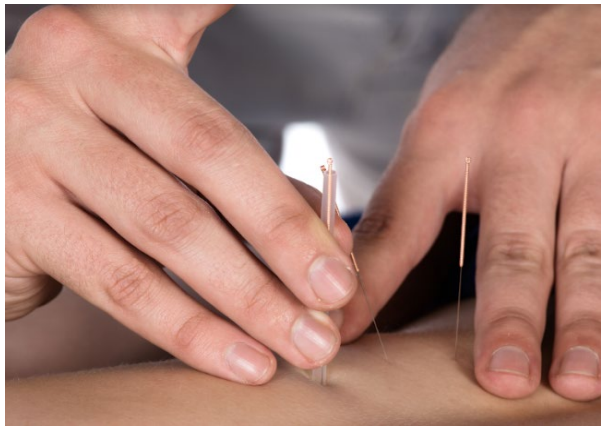
PHYSICAL EXAM AND ASSESSMENT



Hogans, B., Barreveld, A. (Eds.). Pain Care Essentials, NY, NY: Oxford Univ. Press. 2020.




CHAPTER 3

CREATING THE PAIN TREATMENT PLAN

COMPONENTS OF A MULTIMODAL TREATMENT PLAN

GOALS

Reduce Pain | Restore Function | Improve Quality of Life

All Staff Working as a Treatment Team

Physical & Occupational Therapy

Cognitive Behavioral Therapy

Pharmacotherapy

EVIDENCE-BASED NONPHARMACOLOGIC TREATMENTS

- CBT and ACT
- PT/OT/aquatic
- Massage therapy
- Acupuncture
- OMT

- Chiropractic
- Self-management: Tai Chi, Yoga, Exercise, Mindfulness meditation
- Neuromodulation or surgical approaches

What is appropriate for your patient?

Interventional treatments are emerging. Scan for example on spinal cord stimulation.

CBT-cognitive behavioral therapy; ACT-acceptance commitment therapy; OMT-osteopathic manipulative therapy

https://effectivehealthcare.ahrq.gov/products/noninvasive-nonpharm-pain-update/research

PHARMACOLOGIC TREATMENTS BY TYPE OF PAIN

Continue *Effective* Nonpharmacologic Options First

NOCICEPTIVE / INFLAMMATORY	NOCIPLASTIC	NEUROPATHIC
Nerve blocks NSAIDs Opioids (IR) Topicals and patches	Anticholinergic Anticonvulsants TCAs and SNRIs Other serotonin agents **No Opioids***	Anticonvulsants IR and ER/LA opioids Gabapentinoids Nerve blocks TCAs and SNRIs Transdermal opioids

*Assumes no OUD; if patient has OUD, opioid agonist treatment may be appropriate.

DRUG CHARACTERISTICS TO CONSIDER BEFORE PRESCRIBING

Route of administration	Mechanism of action	Strength	Dosing interval
Key instructions (indications, uses, contraindications)	Specific drug interactions	Formulation	Product-specific safety concerns
Potential effects of sudden discontinuation	Specifics about product conversions, if available	ER/LA: Use **only** in opioid tolerant patients	Relative potency to morphine (MME)

Opioid product information available at https://opioidanalgesicrems.com/products.html

- **Immediate Release (IR)**: rapid onset of analgesia, relatively short duration of effect
- **Extended Release/Long-Acting (ER/LA)**: potentially longer onset of action, longer duration of effect; formulation allows for QD or BID dosing; less frequent dosing

SHARED DECISION-MAKING

The pain treatment plan should align with the patient's goals and incorporate:

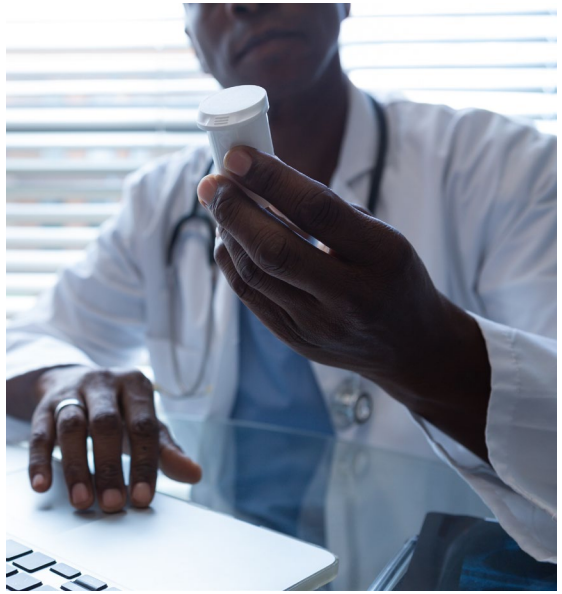
- Analgesic & Functional Goals of Treatment
- Expectations
- Potential Risks
- Alternatives
- Patient's Understanding
- Partnering

WHEN TO CONSIDER A THERAPEUTIC TRIAL OF IR OPIOID

Patient has failed to adequately respond to non-opioid and nonpharmacological interventions

Patient has moderate to severe nociceptive or neuropathic pain

Potential benefits are likely to outweigh risks



Chou R, et al. J Pain. 2009;10:113-130.
Dowell D et al. *MMWR Recomm Rep* 2022 Nov. 4;71(3):1-95. DOI: http://dx.doi.org/10.15585/mmwr.rr7103a1.
VA/DoD Clinical Practice Guideline. (2022). Use of Opioids in the Management of Chronic Pain Work Group. Washington, DC: U.S. Government Printing Office.

RISKS VERSUS BENEFITS OF PRESCRIBED OPIOIDS

POTENTIAL RISKS

- Life-threatening respiratory depression, accidental overdose, death
- OUD/nonmedical use, diversion
- Interactions with other meds and substances
- Physiologic dependence and withdrawal

POTENTIAL BENEFITS

- Option for patients with contraindications for non-opioid analgesics
- May improve pain, function, and quality of life

Risks and benefits are different for sickle cell disease, cancer, and palliative or end-of-life care.

Chou R, et al. J Pain. 2009;10:113-130.
Dowell D et al. *MMWR Recomm Rep* 2022 Nov. 4;71(3):1-95. DOI: http://dx.doi.org/10.15585/mmwr.rr7103a1.
VA/DoD Clinical Practice Guideline. (2022). Use of Opioids in the Management of Chronic Pain Work Group. Washington, DC: U.S. Government Printing Office.

CATEGORIZATION OF OPIOIDS

Scan to view DEA Drug Scheduling

NATURALLY OCCURRING OPIATES	SEMI-SYNTHETIC OPIOIDS	SYNTHETIC OPIOIDS
Codeine Morphine	Buprenorphine Hydrocodone Hydromorphone Oxycodone Oxymorphone	Alfentanil Fentanyl Methadone Remifentanil Tapentadol Tramadol

AGONISTS	PARTIAL AGONISTS	ANTAGONISTS
Codeine Methadone Morphine Oxycodone	Buprenorphine Nalbuphine	Naloxone Nalmefene Methylnaltrexone* Naloxogel*

*These represent PAMORA: peripherally-acting mu opioid receptor antagonist

OPIOID SIDE EFFECTS AND ADVERSE EVENTS

SIDE EFFECTS	ADVERSE EVENTS
Respiratory depression	Death
GI effects: dry mouth, nausea/vomiting, **opioid-induced constipation** (most common; mitigate!)	Disability or permanent damage
Myoclonus (twitching or jerking)	Addiction/nonmedical use
Sedation, cognitive impairment	Overdose
Sweating, miosis, urinary retention	Hospitalization
Allergic reactions	Falls or fractures
Hypogonadism	Opioid-induced hyperalgesia
Tolerance, physical dependence	

Prescribers should report serious AEs and medication errors to the FDA: https://www.fda.gov/media/76299/download or 1-800-FDA-1088

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OPIOID-INDUCED RESPIRATORY DEPRESSION

MORE LIKELY TO OCCUR:

- In older, cachectic, or debilitated patients
- If given concomitantly with other drugs that depress respiration (such as benzodiazepines*)
- In patients who are opioid-naïve or have just had a dose increase
- In patients with conditions causing respiratory compromise (eg, obstructive sleep apnea)
- In patients with organ dysfunction

HOW TO REDUCE RISK:

- Ensure proper dosing and titration
- **Do not overestimate** dose when converting dosage from another opioid product
  - Can result in fatal overdose with first dose
- Avoid co-prescribing benzodiazepines*

***Greatest risk of respiratory depression is in combination with benzodiazepines.**

OPIOID-INDUCED RESPIRATORY DEPRESSION (cont.)

Distribute, dispense, or prescribe naloxone to patient or caregiver.

If not immediately recognized and treated, may lead to respiratory arrest and death.

Remind to swallow tablets/capsules whole.

Instruct patients/caregivers to:

- Screen for shallow or slowed breathing
- Deliver NALOXONE
- **CALL 911**

Instructions may differ if patient is on hospice or near end of life

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SIGNS OF ACCIDENTAL OPIOID POISONING

Person cannot be aroused or unable to talk

Any trouble with breathing, heavy snoring

Gurgling noises from mouth or throat

Body is limp, seems lifeless; face is pale, clammy

Fingernails or lips turn blue/purple

Slow, unusual heartbeat, or stopped heartbeat

CALL 911 & Administer Naloxone

Patient Education

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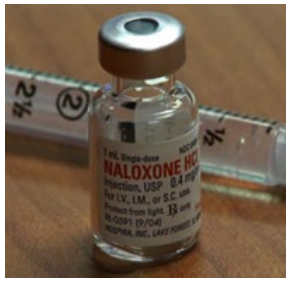
NALOXONE OPTIONS

- Intramuscular injection or nasal spray
- Store at room temperature
- Cost and insurance coverage vary (is OTC, may be free at some pharmacies, clinics, libraries, vending machines, or via mail)
- Teach proper administration using videos or live demonstration



Naloxone vials

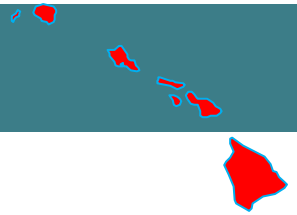

Narcan nasal spray

Scan for FDA Information

Scan for 30-sec tutorial video

Trade name used for identification purposes only and does not imply endorsement.

Naloxone Regulation



Effective date	• **June 2016**
Criminal Immunity	• Prescribers: **Yes** • Dispensers: **Yes** • Lay People: **Yes**
Also Available	• Without Prescription: **Yes** • To 3rd Party: **Yes** • By Standing Order: **Yes**
Carried by First Responders	• **Yes**

On March 29, 2023, FDA announced approval of Narcan (naloxone hydrochloride) Nasal Spray (NNS) for use as a nonprescription opioid overdose reversal agent. OTC NNS commercially available Sept 2023. Other naloxone products will remain prescription drugs.

State Naloxone Access Rules and Resources - SAFE Project, January 2023
http://legislativeanalysis.org/wp-content/uploads/2023/02/Naloxone-Access-Summary-of-State-Laws.pdf Jan 2023
https://www.thefdalawblog.com/2023/03/2023-is-the-year-for-otc-naloxone 3/30/2023

FOR SAFER USE: KNOW DRUG INTERACTIONS, PHARMACODYNAMICS, AND PHARMACOKINETICS

Benzodiazepines, other CNS Depressants, and Skeletal Muscle Relaxants

- Increased risk of respiratory depression, hypotension, profound sedation, or coma
- Avoid co-prescribing when possible

Caution with Tramadol:
Respiratory depression and serotonin syndrome can occur

Many opioids can prolong QTc interval, check package insert; **methadone** requires extra caution

Partial Agonists* or Mixed Agonist/Antagonists†

- Use caution with full opioid agonist
- May reduce analgesic effect and/or precipitate withdrawal

Anticholinergic Medication

- Concurrent use increases risk of urinary retention and severe constipation
- May lead to paralytic ileus

Diuretics:
Opioids can reduce efficacy

*Buprenorphine; †Pentazocine, nalbuphine, butorphanol

DRUGS THAT INHIBIT OR INDUCE CYP ENZYMES

Metabolism of several commonly used opioids occurs through the cytochrome P450 system

Be aware of potential inhibitors (e.g., macrolides, azole antifungals) and inducers (e.g., carbamazepine)

Genetic and phenotypic variations in patient response to certain opioids

Refer to package insert before prescribing

https://dailymed.nlm.nih.gov/dailymed/index.cfm

CO*RE

TRANSDERMAL/TRANSMUCOSAL DOSAGE FORMS

Do not cut, damage, chew, or swallow

Prepare skin: clip (not shave) hair and wash area with water

Rotate location of application

Use the entire film; do not apply if film is altered in any way

Note that metal foil backings are not safe for use in MRIs

Exposure to **heat** (fever or external source): watch for signs of increased opioid exposure

SPECIAL POPULATIONS: SUBSTANCE/OPIOID USE DISORDER

- Address *both* pain and OUD
  - Untreated pain is a trigger for return to use
- Avoid other potentially problematic medications
- Consider a multimodal pain program, including non-pharma options
- Enlist family/caregivers to secure and dispense opioids
- Recommend an active recovery program
- Use PDMP and screening methods (UDT, pill counts) to identify challenges and initiate discussion

Bailey J, et al. Pain Med 2010;11:1803-1818. https://academic.oup.com/painmedicine/article/11/12/1803/1943389

SPECIAL POPULATIONS: WOMEN OF CHILDBEARING POTENTIAL

Neonatal opioid withdrawal syndrome (NOWS) is a potential risk of therapy

GIVEN THIS POTENTIAL RISK, CLINICIANS SHOULD:

- Discuss family planning, contraceptives, breastfeeding plans
- Counsel women of childbearing potential about risks and benefits of opioid therapy during pregnancy and after delivery
- Encourage minimal/no opioid use during pregnancy, unless potential benefits outweigh risks to fetus
- Refer to a qualified clinician who will ensure appropriate treatment for the baby

Perform universal screening to avoid NOWS

For women taking opioids daily, ACOG recommends buprenorphine or methadone

ACOG-American College of Obstetricians and Gynecologists.
Chou R, et al. J Pain. 2009;10:113-30; ACOG Committee on Obstetric Practice, August 2017

SPECIAL POPULATIONS: OLDER ADULTS

RISK FOR RESPIRATORY DEPRESSION

Age-related changes in distribution, metabolism, excretion; absorption less affected

ACTIONS

- Monitor
  - Initiation and titration
  - Concomitant medications (polypharmacy)
  - Falls risk, cognitive change, psychosocial status
- Reduce starting dose to 1/3 to 1/2 the usual dosage in debilitated, non-opioid-tolerant patients
- Start low, go slow, but GO
- Routinely initiate a bowel regimen
- Patient and caregiver reliability/risk of diversion

VA/DoD Clinical Practice Guideline for the Use of Opioids in the Management of Chronic Pain (2022). American Geriatrics Society Panel on the Pharmacological Management of Persistent Pain in Older Persons. J Am Geriatr Soc. 2009;57:1331-46; Chou R, et al. J Pain. 2009;10:113-30.

SPECIAL POPULATIONS: PEDIATRICS

Scan for AAP resources (2024 Opioid Guideline)

- **2024 AAP GUIDELINE: DO NOT PRESCRIBE OPIOID MONOTHREAPY FOR ACUTE PAIN, AVOID CODEINE AND TRAMADOL IN MANY SITUATIONS**
- **SAFETY AND EFFECTIVENESS OF MOST OPIOIDS ARE UNESTABLISHED**
- **ER/LA OPIOID INDICATIONS ARE PRIMARILY LIFE-LIMITING CONDITIONS**
  - Consult pediatric palliative care team or pediatric pain specialist or refer to a specialized multidisciplinary pain clinic
- **ADOLESCENTS ages 12-21: Identify and treat for OUD *(use SBIRT)***

Scan for SBIRT resource

SBIRT-Screening, Brief Intervention, Referral to Treatment.

Hadland SE, et al. *Pediatrics* (2024) 154 (5): e2024068752. https://doi.org/10.1542/peds.2024-068752
Levy SJL, et al. *Pediatrics* (2016) 138 (1): e20161210. https://doi.org/10.1542/peds.2016-1210

SPECIAL POPULATIONS: OTHERS

Treatment considerations may differ for persons with:

- Sleep disorders or sleep-disordered breathing (sleep apnea)
- Dementia/nonverbal patients
- Obesity
- Renal/hepatic impairment
- Psychiatric disorders
- Life-limiting illness

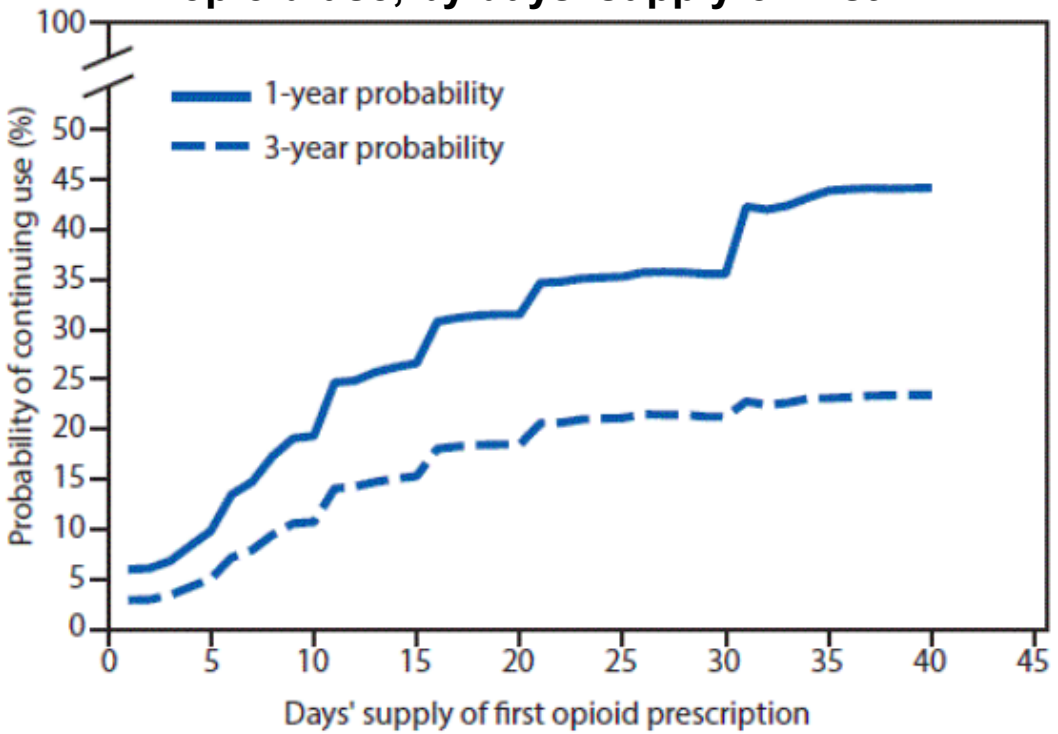
CHAPTER 4

ONGOING, PATIENT-CENTERED CARE FOR THOSE TAKING OPIOID ANALGESICS

INITIATING IR OPIOIDS

- Discuss risk of possibility of continued opioid use
- Prescribe the **lowest effective dose** for the **shortest period of time** based on the individual patient's condition
- Always include dosing instructions, including daily maximum
- Be aware of interindividual variability of response

One- and 3-year probabilities of continued opioid use, by days' supply of first Rx



- ❖ Ensure shared decision making, documentation, baseline UDT
- ❖ Co-prescribe **naloxone** or other reversal agent, and stimulant laxative

https://www.cdc.gov/mmwr/volumes/66/wr/mm6610a1.htm

URINE DRUG TESTING (UDT)

Scan for UDT details

- Urine testing is done **FOR** the patient, not **TO** the patient (not punitive)
- Helps to identify nonmedical use of drugs
- Assists in assessing and documenting adherence

CLINICAL CONSIDERATIONS

- Recommend UDT before first prescription (baseline), then intermittently, depending on clinical judgment and state regulations
- Document time and date of last dose taken
- Be aware of possible false positives or negatives
- Clarify unexpected results with the lab before confronting patient to rule out poor specimen or error

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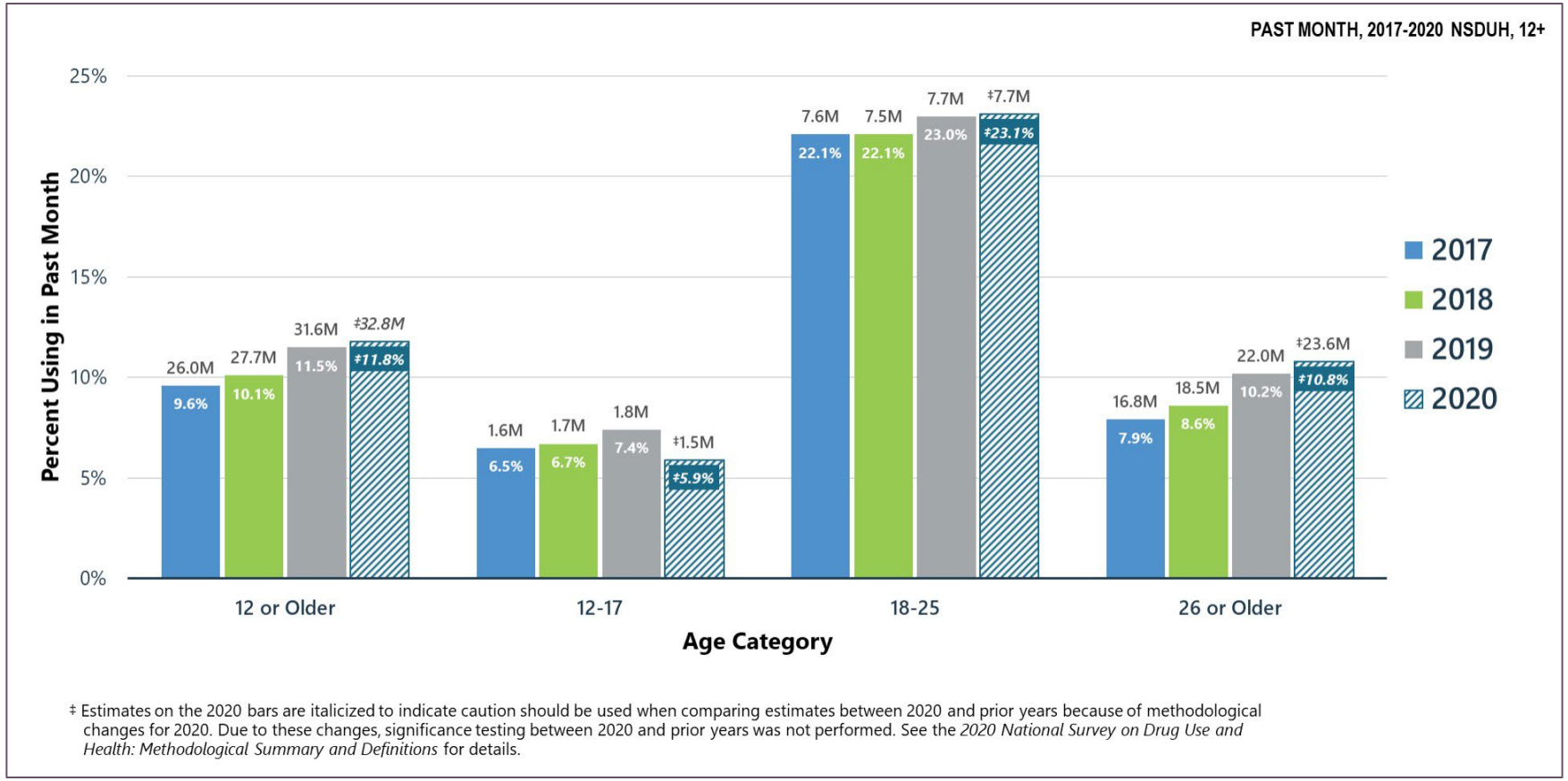
EPIDEMIOLOGY & RECENT TRENDS

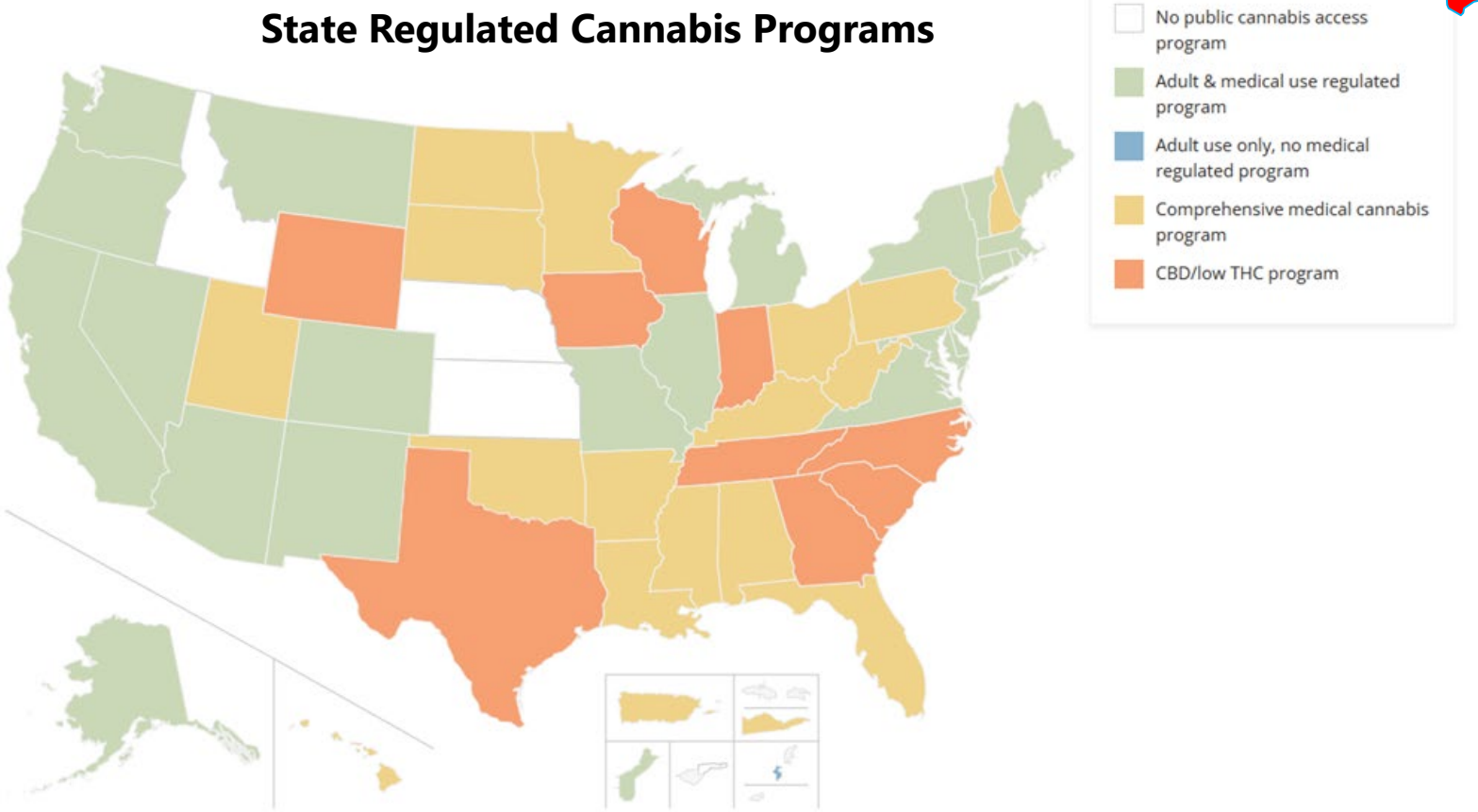


- Most commonly-used federally illicit substance in the U.S.
- 44% of people aged 19-30 used in the last year with daily use at 11%, all time highs
- Use is increasing among those 12+ and 26 +

SOURCES: SAMHSA 2020 report from National Survey on Drug Use and Health (NSDUH)
https://monitoringthefuture.org/wp-content/uploads/2023/07/mtfpanel2023.pdf

Marijuana Status

Medical

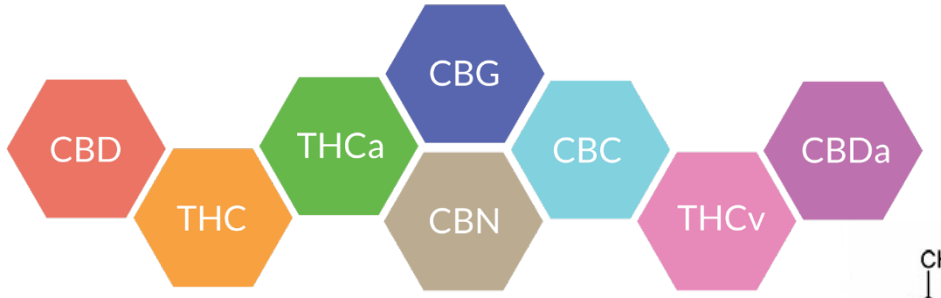


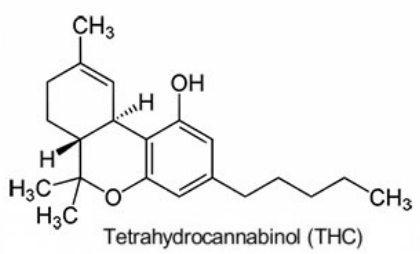
Recreational	Not legal for recreational use in Hawaii

https://www.ncsl.org/research/health/state-medical-marijuana-laws.aspx, April 2023

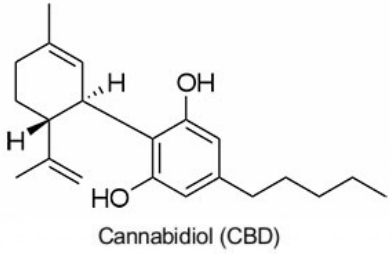
CHEMICAL COMPOSITION

- Over 100 cannabinoids in cannabis plants, most unstudied
- THC associated with more negative effects (euphoria, addiction)
- CBD is being studied for therapeutics, but outside of synthesized CBD for rare seizure disorders, no well-established indications
- Preparations often labeled with inaccurate THC & CBD content
- Varying concentration, other cannabinoids may have health effects





Tetrahydrocannabinol (THC)



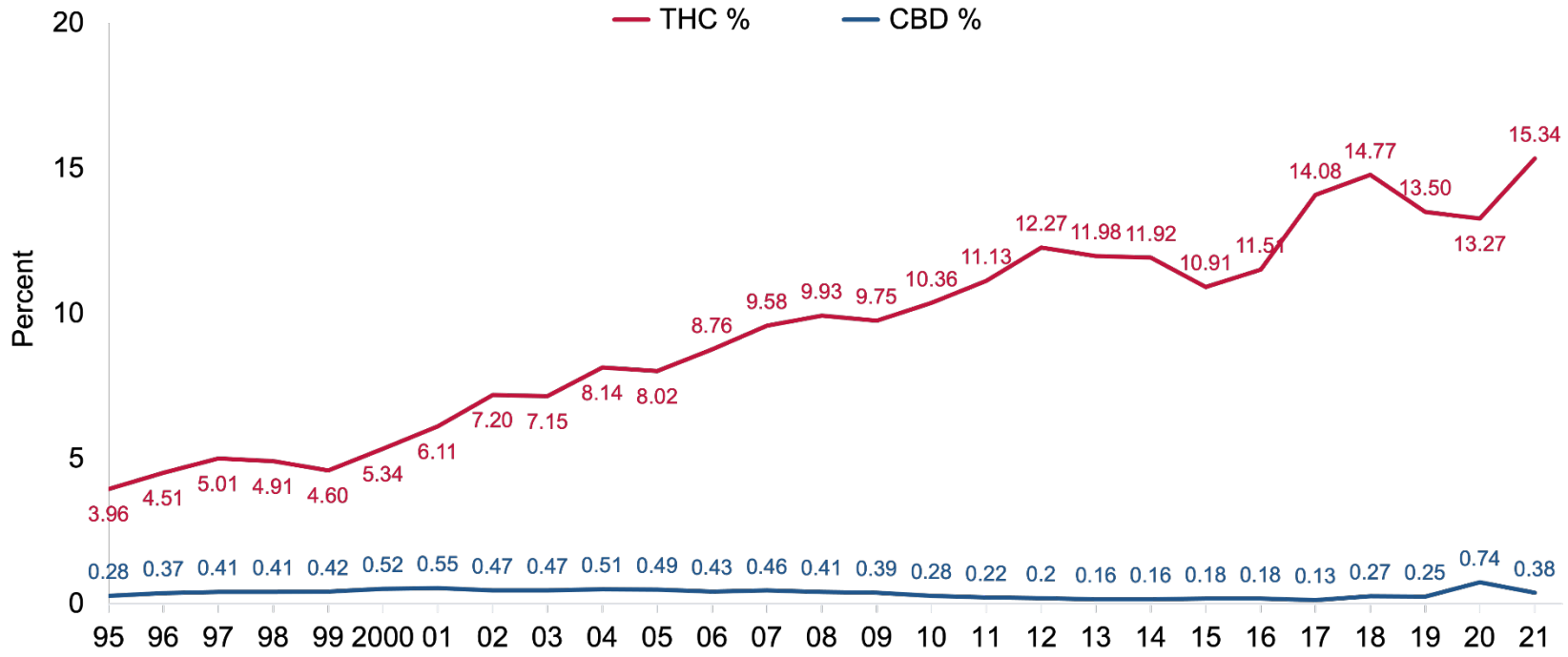
Cannabidiol (CBD)

SOURCES: Hayakawa, K. et al. Therapeutic Potential of Non-Psychotropic Cannabidiol in Ischemic Stroke. Pharmaceuticals **2010**, 3, 2197-2212. https://www.fda.gov/news-events/public-health-focus/fda-regulation-cannabis-and-cannabis-derived-products-including-cannabidiol-cbd.

INCREASED THC POTENCY OVER TIME

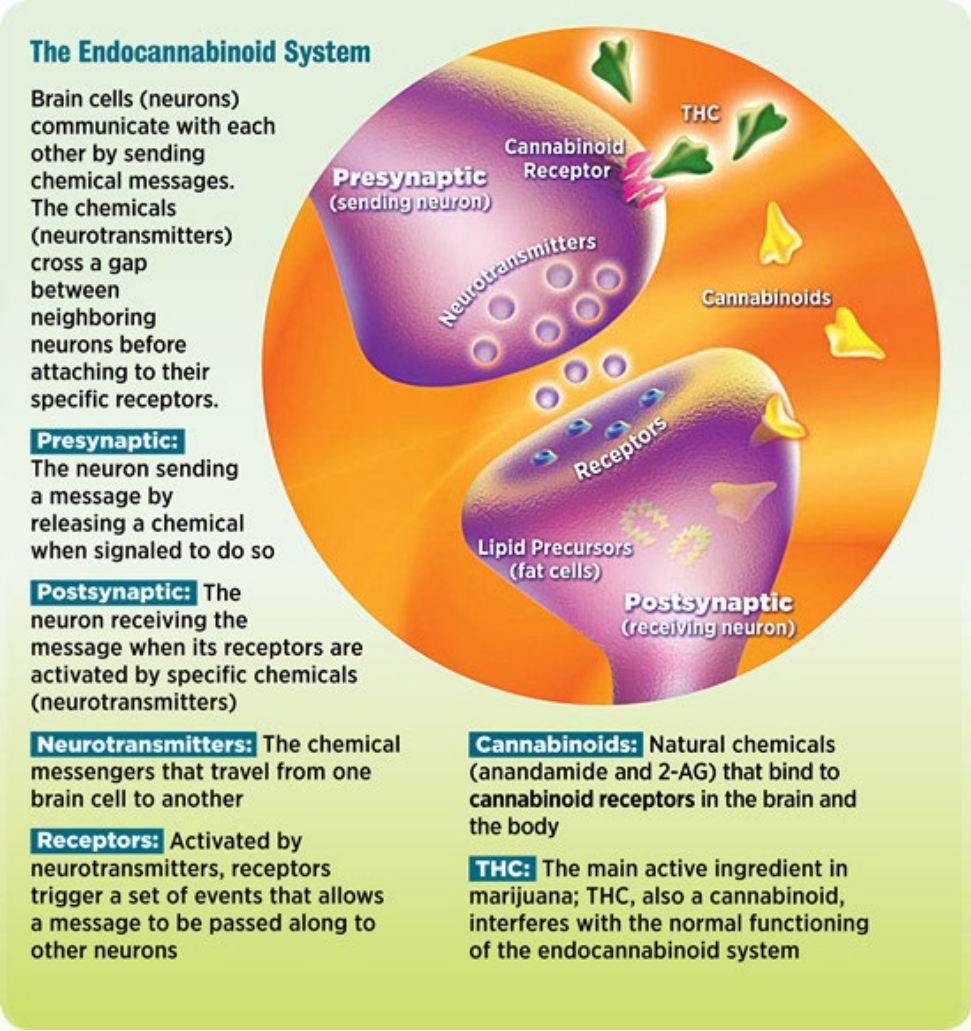
THC concentration increased 5% → > 30% in recent years

Percentage of THC and CBD in Cannabis Samples Seized by the DEA, 1995-2021



SOURCE: U Miss, Potency Monitoring Project

MECHANISM: HOW DOES CANNABIS WORK?



- Endogenous cannabinoids originate from postsynaptic membrane
- Act on presynaptic cannabinoid receptors
- Modulate release of neurotransmitters (e.g., dopamine)
- Exogenous cannabinoids co-opt this system
- Also affects 5HT, alpha, TRPV, TRPA receptors

SOURCE: NIDA 2011

PERCEPTIONS OF MEDICAL EFFICACY vs DATA

Perceptions

- 81% of patients believe marijuana has at least one benefit
- 66% of patients believe in pain benefit

Data

- Systematic Review of RTCs: 2021: Outcomes had low or very low-quality evidence, neither supporting nor refuting efficacy
- Meta analysis 2022: Placebo contributes significantly to pain reduction in cannabis clinical trials
- Review 2022: High THC:CBD products (>98% THC) associated with 25% reduction in pain in short-term studies of variable quality

SOURCES: Steigerwald et al, J Addict Med, 2020; Fisher et al Pain 2021; Gedin et al, JAMA 2022; McDonagh Annals 2022

OPIOID-SPARING THEORY vs DATA

Theory: If cannabis products treat pain, patient may use these products and reduce their use of opioids

Data

- States with medical cannabis have modestly lower rates of opioid prescribing and risky opioid prescribing
- **2019 Study:** Association between med cannabis and reduced opioid mortality has **reversed** over time
- **2021 Meta Analysis:** Opioid-sparing effects remain uncertain due to very low evidence
- **2022 Meta Analysis:** Preclinical/observational studies show opioid-sparing effect, but higher-quality RCTs do not
- **2023 Living Systematic Review:** Cannabis impact on use of opioids remains insufficient

SOURCES: Shah et al, JGIM 2019, Noori et al BMJ Open 2021; Nielsen Neuropsychopharm 2022; Chou et al, AHRQ, 2023.

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CLINICAL CONSIDERATIONS

- Individual risk stratification is crucial
  - Person/family history of mental health, addictions
  - Baseline psychosis risk
  - Risks related to driving, work, education, parenting
  - Medical, cognitive issues worsened by cannabis
- Counsel patients
  - Federally, cannabis is illegal (Schedule 1)
  - States vary
  - Review harm reduction strategies
- Use PPA and document conversations about risks
- Seek institutional legal counsel to reduce liability

CANNABIS AND HARM REDUCTION

- Abstinence is best way to avoid health risks
- Avoid early-age initiation
- Avoid high frequency use (daily or near daily)
- Choose low-potency THC or balanced THC:CBD ratios
- Abstain from synthetic products
- Avoid combustible products, non-smoking methods preferable
- Avoid use in older adults due to risks

- Avoid deep/risky inhalation
- Abstain from cannabis-impaired driving
- High-risk populations should avoid use (e.g., psychosis, addictions)
- Track use over time, including metered dosing
- Set a time limit and goal for use, and continue to monitor for signs of Use Disorder

SOURCE: Adapted from Fischer et al, 2017. American J Public Health Policy

EDUCATE AND DOCUMENT

Partner for Safe and Effective Opioid Use

Scan and use this Patient Counseling Guide

- Clarify treatment plans & goals
- Safeguards

  - ➢ Store away from children, family, visitors, and pets
  - ➢ Extra precautions needed with adolescents in the home

- One prescriber
- Consider one pharmacy
- Notify prescriber of any event resulting in a pain medication prescription
- Follow-up plan including UDT
- Refill procedure
- Behaviors indicating need for discontinuation
- Exit strategy
- Signed by both

https://www.opioidanalgesicrems.com/Resources/Docs/patient_counseling_document.pdf

McDonald E, Kennedy-Hendrick A, McGinty E, Shields W, Barry C, Gielen A. Pediatrics. 2017;139(3):e20162161

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EDUCATE AND DOCUMENT (cont.)

Scan and use this <u>Patient Counseling Guide</u>

In addition to the *<u>Guide</u>*:

- Go over all side effects
- If a dose is missed: do not take extra, contact HCP
- If patient cannot swallow, determine if appropriate to sprinkle contents on applesauce or administer via feeding tube
- Use least amount of medication necessary for shortest time

Signs of Potential OUD

- Cravings
- Being unable to fulfill work/family obligations
- Nodding off
- Taking more than prescribed
- Sedation, cognitive impairment
- Falls and fractures

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SHARED DECISION-MAKING IN ONGOING CARE

1. **How is the treatment plan working?**
   - Is the patient achieving functional goals?
   - Perform medication reconciliation
   - Evaluate for barriers
2. **Is care still in line with the patient's values and preferences?**
3. **Reassess underlying source of pain**
4. **Reassess risk of OUD**
   - Current Opioid Misuse Measure [COMM™] for patients on chronic therapy
5. **Explore patient willingness to engage with other modalities**
6. **Inquire about breakthrough pain or emerging psychiatric/medical conditions**
7. **Reset goals as needed, developing reasonable expectations**

*Scan to view CO*RE Tools*

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CHANGING FROM IR TO ER/LA OPIOID: REASONS

PRIMARY REASONS

- Maintain stable blood levels (steady state plasma)
- Longer duration of action
- Multiple IR doses needed to achieve effective analgesia
- Poor analgesic efficacy despite dose titration
- Less sleep disruption

OTHER POTENTIAL REASONS

- Patient desire or need to try a new formulation
- Cost or insurance issues
- Adherence issues
- Change in clinical status requiring an opioid with different pharmacokinetics
- Problematic drug-drug interactions

CHANGING FROM IR TO ER/LA OPIOID: SAFETY

DRUG SELECTION IS CRITICAL

Some ER/LA opioids or dosage forms are only recommended for opioid tolerant patients (ER/LA in opioid-naïve patients is controversial)

- ANY strength of transdermal fentanyl
- Certain strengths/doses of other ER/LA products (*check drug prescribing information*)
- Consider transition to buprenorphine (patch, film)

INDIVIDUALIZE DOSAGE BY TITRATION BASED ON EFFICACY, TOLERABILITY, AND PRESENCE OF ADVERSE EVENTS

- *Check drug prescribing information* for minimum titration intervals
- Supplement with IR analgesics (opioid and non-opioid) if pain is not controlled during titration

Scan for drug prescribing info

❖ **MONITOR PATIENTS CLOSELY FOR RESPIRATORY DEPRESSION**
Especially within 24–72 hours of initiating therapy and increasing dosage

Chou R, et al. J Pain. 2009;10:113-130; https://pubmed.ncbi.nlm.nih.gov/31917418/, https://www.pbm.va.gov/PBM/AcademicDetailingService/Documents/Academic_Detailing_Educational_Material_Catalog/IB_1497_Provider_BupChronicPain.pdf

CO*RE

EMERGENCE OF OPIOID-INDUCED HYPERALGESIA

New FDA warning added in 2023

An increase in pain or sensitivity to pain

Usually occurs at high MME dosages and over long periods of time

A physiological phenomenon that can happen to anyone

Consider this explanation if:

- Pain increases despite dose increases
- Pain appears in new locations
- Patient becomes more sensitive to painful stimuli
- Patient is not improving in the absence of underlying cause or disease progression

Yi P, Pryzbylkowski P. Opioid induced hyperalgesia. *Pain Medicine.* 2015; 16: S32-S36.
2023 FDA warning: https://www.fda.gov/drugs/drug-safety-and-availability/fda-announces-new-safety-label-changes-opioid-pain-medicines

OPIOID TOLERANCE

If opioid tolerant, still use caution at higher doses

Patients considered opioid tolerant are taking at least:

- 60 mg oral morphine/day
- 30 mg oral oxycodone/day
- 8 mg oral hydromorphone/day
- 25 mg oral oxymorphone/day
- An equianalgesic dose of another opioid

Also use caution when rotating a patient

FOR 1 WEEK OR LONGER

Transdermal fentanyl is restricted to opioid tolerant individuals.

The Opioid Analgesics Risk Evaluation & Mitigation Strategy product search, https://opioidanalgesicrems.com/products.html

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OPIOID TOLERANCE VERSUS PHYSICAL DEPENDENCE

TOLERANCE

- Occurs when increased dose is needed to maintain the functional status no longer achieved by current dose
- Remember CNS and respiratory depression can develop with dose increase

PHYSICAL DEPENDENCE

- Occurs when an individual only functions normally in the presence of the substance
- Abrupt discontinuation or dosage decrease causes uncomfortable symptoms of withdrawal

Both **tolerance** and **physical dependence** are physiological adaptations to chronic opioid exposure and **DO NOT** equal addiction or opioid use disorder

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OPIOID ROTATION

DEFINITION

A change from an existing opioid regimen to another opioid with the goal of improving therapeutic outcomes or to avoid AEs attributed to the existing drug

CAUTIONS

- Equianalgesic tables are not associated with strong scientific evidence
- Opioid changes for chronic pain patients are associated with increased mortality

RATIONALE

Used when differences in pharmacologic or other effects make it likely that a switch will improve outcomes

- Effectiveness and AEs of different mu-opioids vary among patients
- Patient tolerant to first opioid might have improved analgesia from second opioid at a dose lower than calculated from an equianalgesic dosing table (EDT)

Treillet E, Laurent S, Hadjiat Y. *J Pain Res*. 2018;11:2587-2601. https://doi.org/10.2147/JPR.S170269.
Dowell D et al. *MMWR Recomm Rep* 2022 Nov. 4;71(3):1-95. DOI: http://dx.doi.org/10.15585/mmwr.rr7103a1.

EQUIANALGESIC DOSING TABLES (EDTs)

Many different versions:

- Published
- Online calculators
- Smartphone apps

Vary in terms of:

- Equianalgesic values
- Whether ranges are used
- **Which opioids are included:** May or may not include transdermal opioids, rapid-onset fentanyl, ER/LA opioids, or opioid agonist-antagonists

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GUIDELINES FOR OPIOID ROTATION

Scan and watch calculation video (3:21)

Calculate equianalgesic dose of new opioid from EDT

Due to incomplete cross-tolerance,
REDUCE CALCULATED EQUIANALGESIC DOSE BY 25%–50%*
BASED ON CLINICAL JUDGMENT

CLOSER TO 50% REDUCTION	CLOSER TO 25% REDUCTION
IF PATIENT… • Is receiving a relatively high dose of current opioid regimen • **Is an older adult** or medically frail	IF PATIENT… • Does not have these characteristics • Is changing route of administration

*75%-90% for methadone

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GUIDELINES FOR OPIOID ROTATION (cont.)

IF SWITCHING TO **METHADONE**:

- Do **not** give methadone to opioid-naïve patients
- Standard equianalgesic dosing tables are less helpful in opioid rotation to methadone
- For opioid tolerant patients, methadone doses should **not** exceed 30–40 mg/day upon rotation
  - Consider inpatient monitoring; EKG monitoring controversial

IF SWITCHING TO **BUPRENORPHINE**:

Consider cross-taper with buccal film or transdermal patch; see guidelines for switch to higher dose

IF SWITCHING TO **TRANSDERMAL FENTANYL**:

Calculate dose conversion based on equianalgesic dose ratios included in the drug package insert

https://pubmed.ncbi.nlm.nih.gov/31917418/, https://www.pbm.va.gov/PBM/AcademicDetailingService/Documents/Academic_Detailing_Educational_Material_Catalog/IB_1497_Provider_BupChronicPain.pdf https://accpjournals.onlinelibrary.wiley.com/doi/full/10.1002/phar.2676, CDC 2022 Guideline for Prescribing Opioids for Pain, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4078896/

CO*RE

BREAKTHROUGH PAIN (BTP)

PATIENTS ON STABLE ATC OPIOIDS MAY EXPERIENCE BTP

- Due to disease progression or a new or unrelated pain
  - Target cause or precipitating factors
- Dose for BTP: Using an **IR, 5%–15%** of total daily opioid dose, administered at an appropriate interval
- **Never use ER/LA for BTP**

CONSIDER OPTIMIZING

- PRN IR opioid trial based on analysis of benefit versus risk
  - There is a risk for problematic drug-related behaviors
  - High-risk: Add only in conjunction with frequent monitoring
  - and follow-up
  - Low-risk: Add with routine follow-up and monitoring
- Consider non-opioid drug therapies and nonpharmacologic treatments

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CONSIDERATIONS FOR RE-EVALUATING OPIOID USE

THERAPEUTIC GOALS ARE ACHIEVED	INTOLERABLE AND UNMANAGEABLE AEs	NO PROGRESS TOWARD THERAPEUTIC GOALS	RISKS OUTWEIGH BENEFITS

NONMEDICAL DRUG USE BEHAVIORS

- One or two episodes of increasing dose without prescriber knowledge
- Sharing medications
- Unapproved opioid use to treat another symptom (e.g., insomnia)
- Use of illicit drugs or unprescribed opioids
- Repeatedly obtaining opioids from multiple outside sources
- Prescription forgery
- Multiple episodes of prescription loss
- Diversion

Even at prescribed doses, opioids carry the risk of nonmedical use, opioid use disorder, overdose, death

*Scan to view CO*RE Tools*

HOW TO IDENTIFY RISK OF OUD FOR MY PATIENTS

10%–26% of patients on chronic opioid therapy (COT) for chronic noncancer pain (CNCP) may develop OUD

What to look for:

- High dosages
- Prolonged use
- Low hedonic tone
- Mental health disorders
- Past history of substance use disorder

Clinical judgment is key.

Chou R, et al. Ann Intern Med. 2015;162:276-86

CO*RE

PATIENT-CENTERED APPROACH TO TAPERING

No single approach is appropriate for all patients

- Ensure careful monitoring and psychosocial support for 2+ years after taper initiation due to sustained risks
- Discontinue through a taper schedule developed in collaboration with the patient
- May use a range of approaches, from a slow 10% dose reduction per week to a more rapid 25%-50% reduction every few days
- For patients physically dependent on opioids, consider medications to assist with withdrawal (clonidine, NSAIDs, antiemetics, antidiarrheal agents)
- Consider rotation to partial agonist (e.g., buprenorphine)
- If OUD suspected: begin MOUD, consider referral to specialist

Scan for HHS Guide on Tapering

Langford AV, et al. *Med J Aust.* 2023 Jul 17;219(2):80-89. doi: 10.5694/mja2.52002.
Fenton JJ, et al. *JAMA Netw Open.* 2022;5(6):e2216726. doi:10.1001/jamanetworkopen.2022.16726
Agnoli A, et al. JAMA. 2021 Aug 3;326(5):411-419. doi: 10.1001/jama.2021.11013.

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WHERE AND HOW TO DISPOSE OF UNUSED OPIOIDS

Scan for 45-sec FDA video

Prepaid Mail-Back Package from Pharmacy

Authorized Take-Back Site

- Search “drug disposal near me” for kiosk sites and events

In-home Options

- Flush (fold patch in half so sticky sides meet, then flush)
- Trash (mix with noxious element like kitty litter or compost)

FDA. Where and How to Dispose of Unused Medicines. https://www.fda.gov/consumers/consumer-updates/where-and-how-dispose-unused-medicines; EPA. How to Dispose of Medicines Properly. https://archive.epa.gov/region02/capp/web/pdf/ppcpflyer.pdf

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WHAT IS SUBSTANCE USE DISORDER (ADDICTION)?

Practical Definition

Addiction, referred to as *substance use disorder* in the DSM-V-TR, is the continued use of drugs or activities, despite knowledge of continued **harm** to oneself or others.

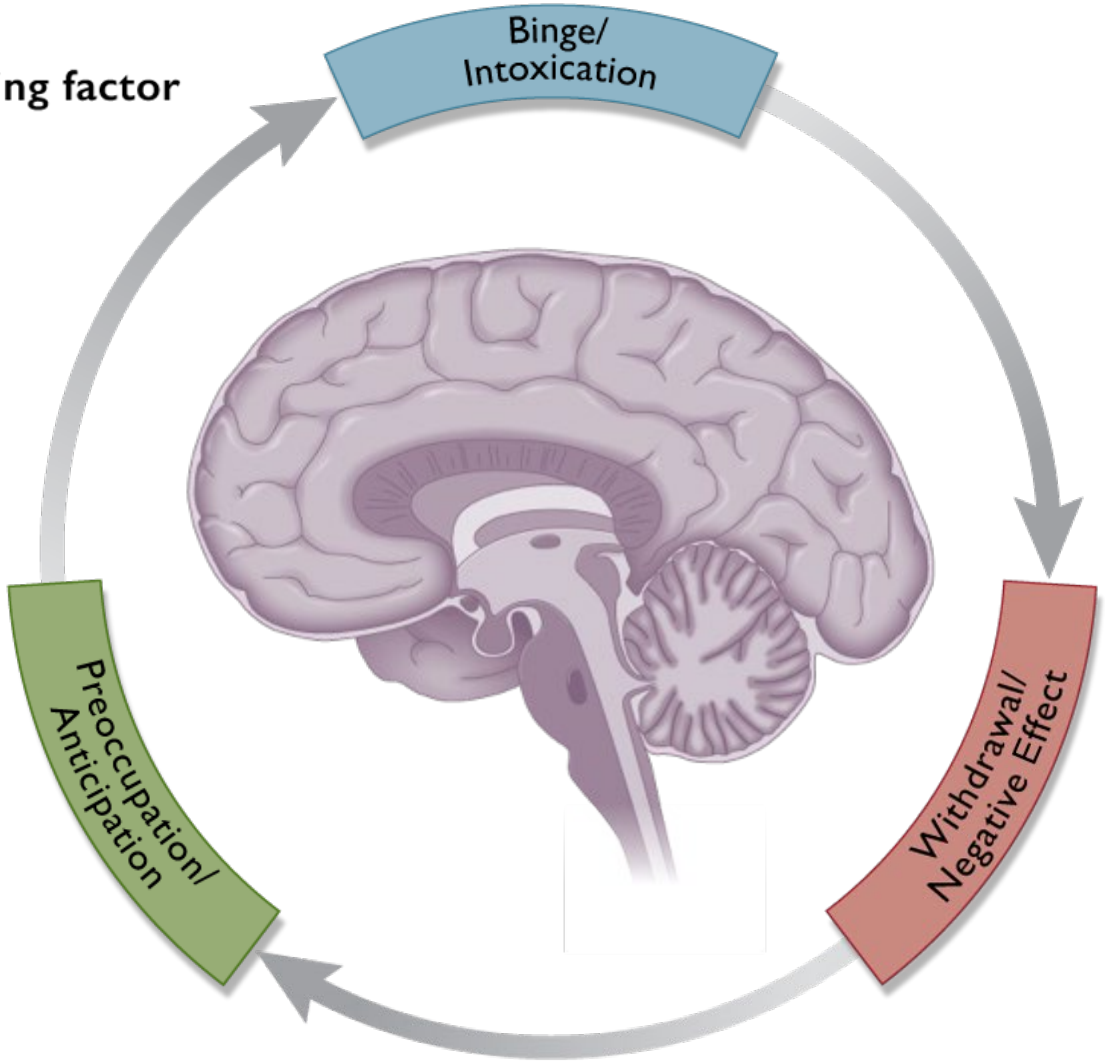
ASAM Definition

Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences. People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

THE CYCLE OF SUBSTANCE USE DISORDER

NEUROTRANSMITTERS

- Dopamine
- Opioid peptides
- Corticotropin-releasing factor
- Dynorphin
- Glutamate



OPIOID USE DISORDER: DSM-5-TR CRITERIA

Be alert to these factors in patients on long-term opioid therapy:

1. Taking larger amounts and/or for longer periods than intended
2. Persistent desire or inability to cut down or control use
3. Increased time spent obtaining, using, or recovering
4. Craving/compulsion to use opioids
5. Role failure at work, home, school
6. Social or interpersonal problems
7. Reducing social, work, recreational activity
8. Physical hazards
9. Physical or psychological harm

2–3 = mild
4–5 = moderate
≥6 = severe

10. Tolerance ❖
11. Withdrawal ❖

❖ **Not valid if opioid is taken as prescribed**

APA. Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR). 2022

MEDICATION FOR OPIOID USE DISORDER (MOUD)

- Important and evidence-based medication that saves lives
- You can start from your office, as an outpatient
- Some treatments for OUD are also effective for pain
- Patients with OUD have decreased mortality when treated – *you can save a life!*

Three medication options:

1. Buprenorphine (Schedule III)
2. Methadone (Schedule II)
3. Naltrexone (not a controlled substance)

Adopt an ongoing harm reduction approach through dialogue/discussion

BUPRENORPHINE

Most commonly prescribed pharmacotherapy for treatment of OUD

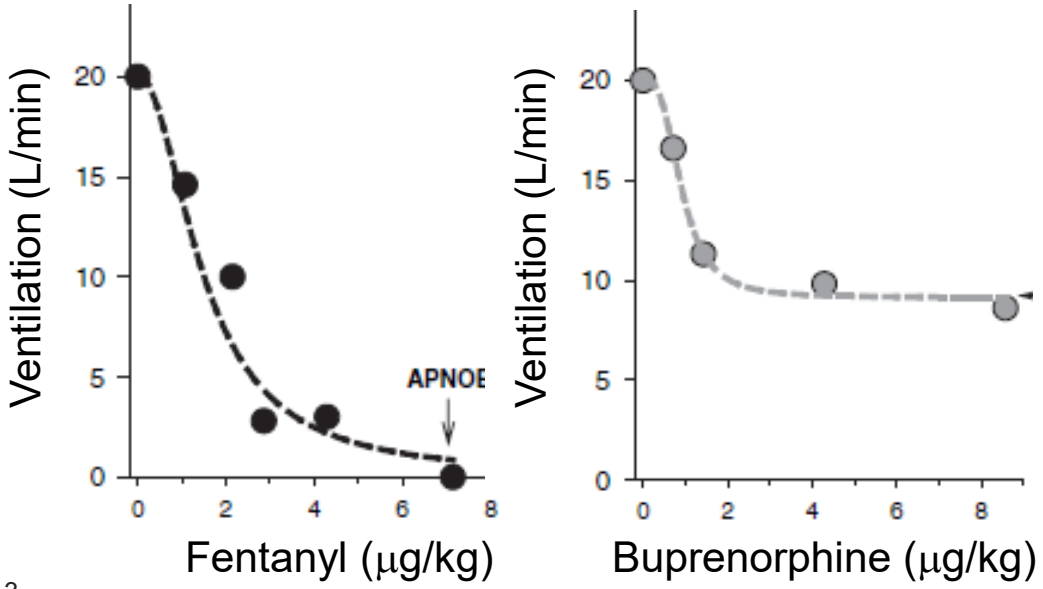
- Long-acting injectable and sublingual form indicated to treat withdrawal and craving

Approved for pain (7-day patch, buccal mucosal film BID)

Good efficacy and safety profile; “Plateau effect” for respiratory depression ***(see graphs)***

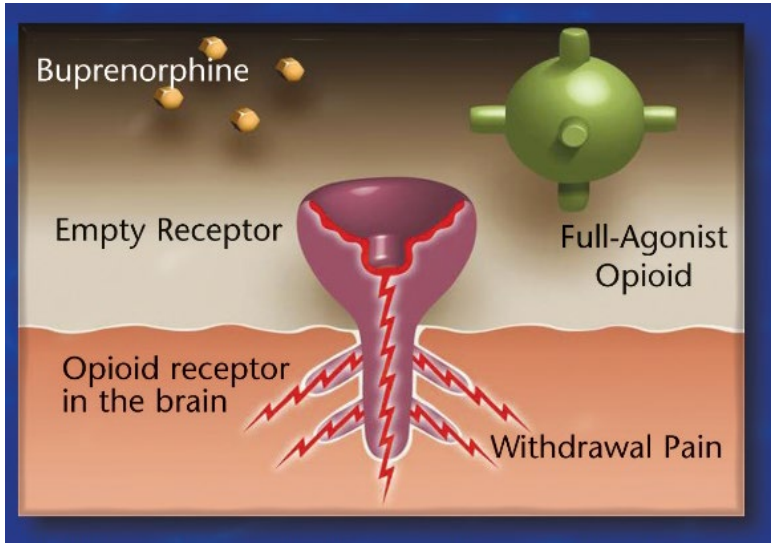
All DEA-licensed HCPs can prescribe without patient number caps

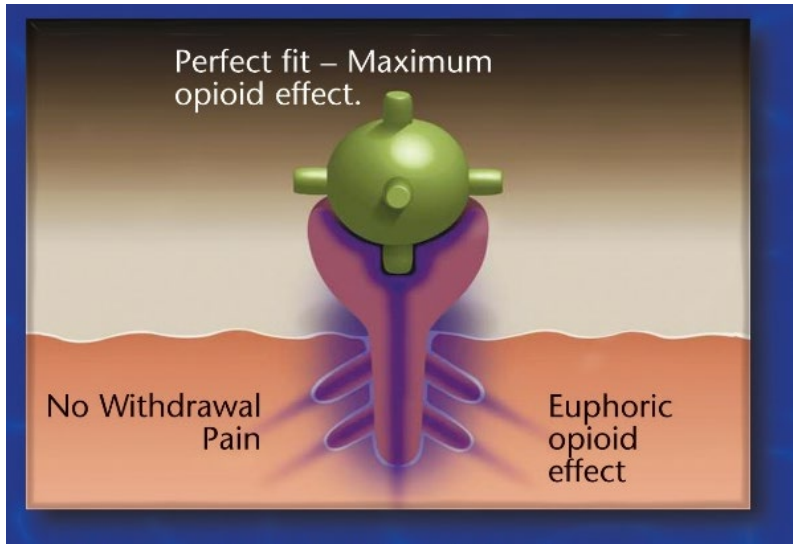
Scan for info on approvals for pain, OUD

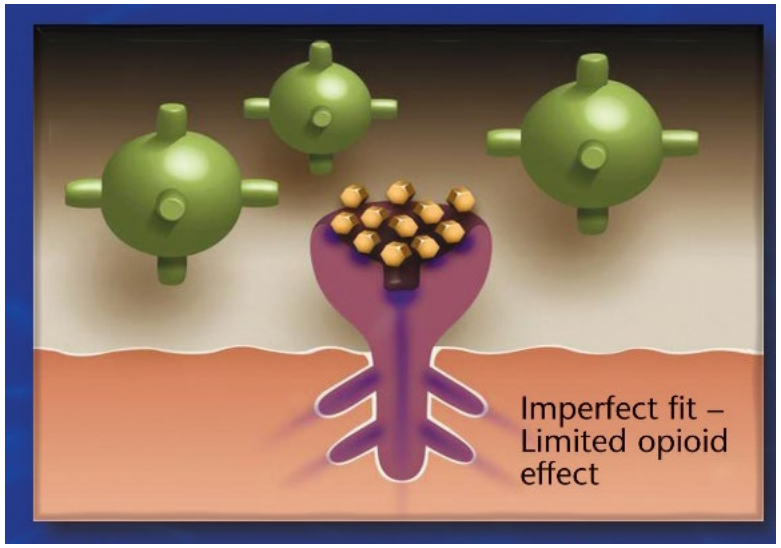


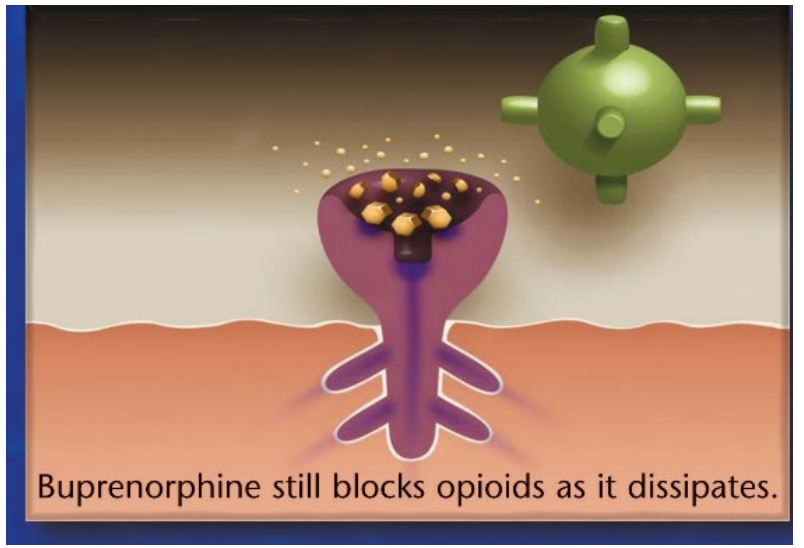
Dahan A. *Palliative Medicine.* 2006; 20: s3/s8.
Spinella S, McCarthy R. *Am J Med.* 2024 May;137(5):406-413.

HOW BUPRENORPHINE WORKS



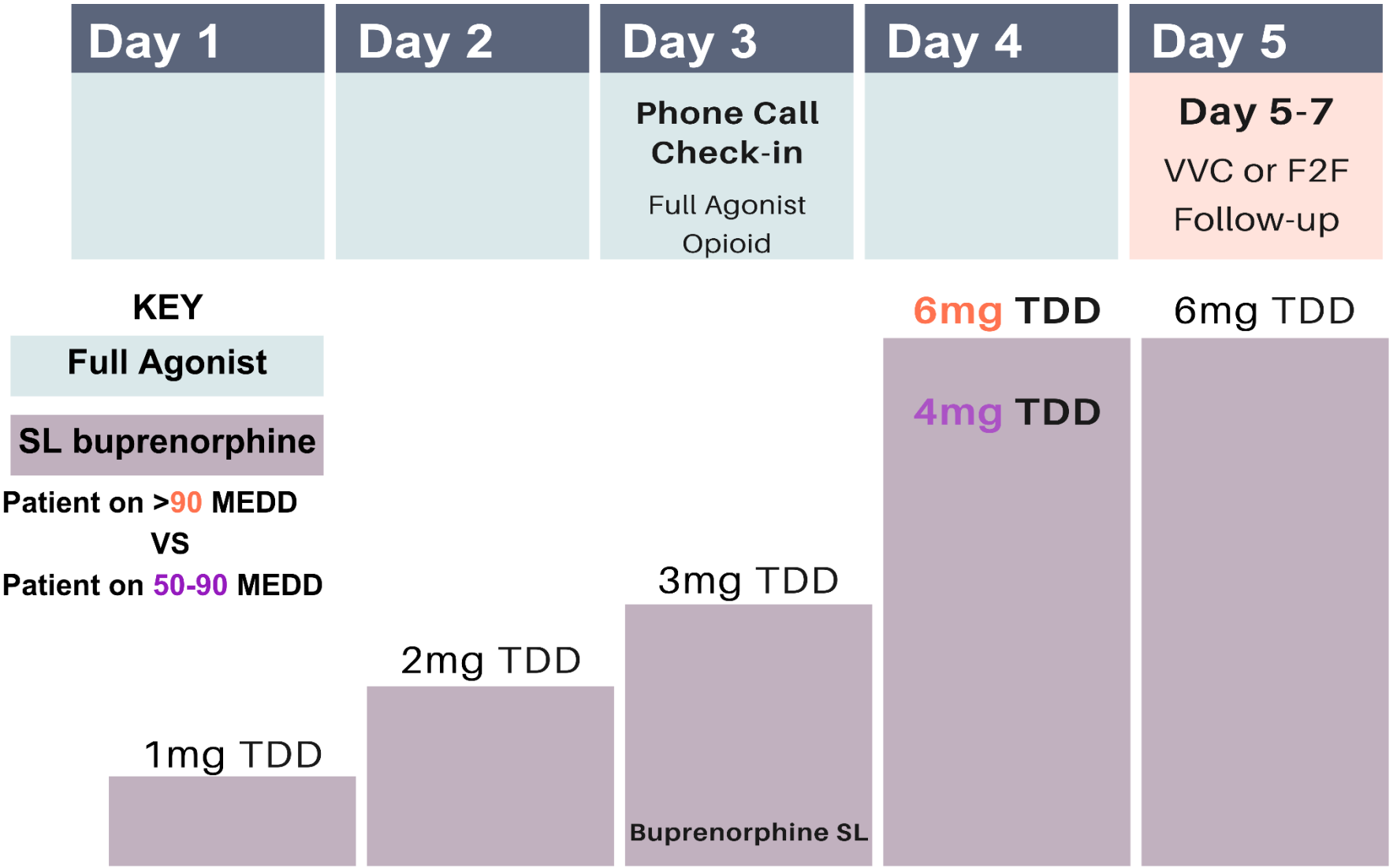






https://www.naabt.org/education/images/Receptors_HiRes.jpg, https://pubmed.ncbi.nlm.nih.gov/16547090/

BUPRENORPHINE: MICRODOSING



TDD-total daily dose.

Buprenorphine for the Management of Chronic Pain. National Guidance Document. March 2024. Adapted from: VA West CT Opioid Reassessment Clinic. Figure 1 in Edmond S et al. *Pain Medicine*. 2023; 23(6):1043-1046.

Scan for source and more info

CONSULTING A SPECIALIST

- When you feel you cannot provide the level of care needed
- Ensure you have a reliable specialist to refer to
- Contact specialist and ask what is needed for referral
- To find a **pain specialist**:
  - Consult state boards
  - Consult colleagues
  - Use online resources
  - Consult payment source

ADDICTION SPECIALIST REFERRAL

ASAM
Physician Finder

SAMHSA
Find Treatment

AAAP
Specialist Finder

TREATMENT RESOURCES

SAMHSA
Training Materials & Resources

NIDA
Treatment Resources

PCSS
Providers Clinical Support System

NCCC
National Clinical Consultation Center

IN SUMMARY

- Use multimodal therapies as part of the pain management care plan
- Screen for OUD risk with a validated instrument
- There is a place for opioids, but use caution
- Continually reassess patients who are receiving opioids
- Patient and family/caregiver education is essential
- If you suspect OUD, begin treatment

THANK YOU! 🤗

This education counts toward the MATE Act hours to renew your DEA License and your feedback is critical to improving future education.

MAKE SURE your participation is counted.

Become an official “FDA Blueprint Completer”

by answering the post-test questions!

Scan me to access post-test assessment!

CO*RE