SAPC Information Notice 24-01
Attachment B: SAPC Required Addiction Medications

SAPC contracted treatment agencies shall make all of the required medications listed below available to patients, either directly or through referral. Individuals who have the following substance use disorders (SUDs) and do not have contraindications for the medications listed below should be offered each of these medications, as clinically appropriate, using shared decision making with a medical LPHA operating within the scope of practice of their license (licensed prescribing clinician). All medication services offered by SAPC contracted treatment agencies should be associated with documentation in the medical record of the benefits outweighing the risks.

Addiction medications for youth should be considered and used when deemed clinically appropriate by a licensed prescribing clinician. Research and clinical experience have not identified any age-specific safety concerns for addiction medications and all treatment options should be considered for patients of all ages.

The current versions of U.S. Food and Drug Administration (FDA)-approved package inserts that include information about each medication's FDA labeled indication(s) and recommended dosages, warnings/precautions, administration, storage, disposal, and considerations for special populations are available for download through *Drugs@FDA FDA-Approved Drugs Database*:
http://www.accessdata.fda.gov/scripts/cder/daf/index.cfm

REQUIRED MEDICATIONS FOR OPIOID USE DISORDER
- Methadone
- Buprenorphine
- Naltrexone

REQUIRED MEDICATIONS FOR ALCOHOL USE DISORDER
- Naltrexone
- Acamprosate
- Disulfiram

REQUIRED MEDICATIONS FOR TOBACCO USE DISORDER
- Nicotine Replacement Therapy
- Varenicline
- Bupropion

Refer to the subsequent clinical considerations that include additional information related to addiction medication services.

The following medications clinically effective to treat alcohol, cannabis, and/or stimulant use disorders are recommended but not required to be offered as a component of the agency's addiction medication policies and procedures.

RECOMMENDED ADDITIONAL MEDICATIONS FOR ALCOHOL USE DISORDER

- Topiramate
- Gabapentin

RECOMMENDED MEDICATIONS FOR CANNABIS USE DISORDER

- N-acetylcysteine
- Naltrexone
- Topiramate
- Gabapentin

RECOMMENDED MEDICATIONS FOR STIMULANT USE DISORDER, METHAMPHETAMINE TYPE

- Naltrexone in combination with bupropion
- Mirtazapine
- Bupropion
- Topiramate
- Methylphenidate*

RECOMMENDED MEDICATIONS FOR COCAINE USE DISORDER

- Bupropion
- Topiramate
- Modafinil*
- Mixed Amphetamine Salts-Extended Release*

Clinical Considerations†

The duration of addiction medication treatment is dependent upon clinical judgment, patient presentation, and other external factors (including but not limited to the patient's clinical stability, engagement in treatment, motivation, and the presence of other psychosocial stressors in the patient's life).

Patients treated with medications FDA-approved for opioid use disorder have improved outcomes when these medications are used as a long-term (> 12 months) maintenance treatment as compared with patients who receive opioid withdrawal management without maintenance medication treatment.

---

*Psychostimulant medications may be prescribed by any medical LPHA who has a U.S. Drug Enforcement Administration (DEA) registration that includes the corresponding scheduled medication category. Psychostimulant medications can be offered by any DEA-registered licensed prescribing clinician to patients in accordance with their FDA-labeled indications when clinically appropriate. There are no medications FDA approved to treat stimulant use disorder. Psychostimulant medications being used outside of their FDA labeled indications to treat stimulant use disorder should only be prescribed for this off-label indication by physician specialists who are board certified in addiction medicine or addiction psychiatry or by physicians with commensurate training, competencies, and capacity for close patient monitoring.

† Adapted from County of Los Angeles. Department of Mental Health. Clinical Quality of Care – Practice Parameters: *Medication-Assisted Treatment in Individuals with Co-Occurring Substance Use Disorders.* http://secure2.compliancebridge.com/lacdmh/public/index.php

Methadone

- Methadone is a slow- and long-acting full opioid agonist which can only be administered to patients through opioid treatment programs (OTPs) or to patients admitted to a licensed hospital. SAPC contracted OTPs that can treat patients with opioid use disorder with methadone can be identified through SAPC's Service and Bed Availability Tool (SBAT): http://sapccis.ph.lacounty.gov/sbat

Buprenorphine

- Buprenorphine is a high-affinity partial mu opioid agonist that is an effective treatment for opioid use disorder. Patients with opioid use disorder may experience precipitated withdrawal during initiation of buprenorphine when they are physically dependent on opioids. Buprenorphine is best initiated after an individual begins to show signs and symptoms of moderate opioid withdrawal to reduce risk of precipitating opioid withdrawal.
- For patients who have previously experienced precipitated withdrawal from standard buprenorphine initiation, it may be reasonable to consider use of a modified dosing regimen. For patients with opioid use disorder involving fentanyl, patients may benefit from a longer period of time (as compared with non-fentanyl opioids) before starting treatment with buprenorphine, to avoid precipitated withdrawal.
- Patients taking long-acting opioids, such as methadone, may require waiting more than 72 hours after their last use of these opioids before starting buprenorphine, depending on the dose used.
- Refer to Table 1 (below) for a buprenorphine bioequivalence chart comparing doses for buprenorphine medications FDA-approved to treat opioid use disorder.
- The naloxone in buprenorphine/naloxone co-formulated medications is poorly orally absorbed. Precipitated withdrawal caused by buprenorphine medications is dominantly from the buprenorphine component of the medication, not naloxone. The naloxone in buprenorphine/naloxone co-formulated medications does not reverse opioid overdose and should not be used in lieu of intranasal or intramuscular naloxone FDA-approved as a opioid overdose reversal medication.

Naltrexone

- Patients considered for treatment with naltrexone must be abstinent from all opioids (regardless of whether an opioid has been prescribed) for between 7 and 14 days (depending upon the half-life of the opioid the patient had been using) prior to initiating naltrexone to minimize risk of precipitated withdrawal.
- When used to treat opioid use disorder, extended release naltrexone injection is preferred over oral naltrexone.
- Extended release naltrexone injection used to treat opioid use disorder is effective for highly motivated patients who have achieved opioid abstinence prior to initiating treatment with naltrexone.
- Naltrexone is FDA approved to treat alcohol used disorder and patients do not need to be abstinent from alcohol in order to receive or benefit from treatment with naltrexone.
- Naltrexone can be used, off-label, to treat cannabis use disorder; see Table 2 for the dosing considerations.

- Naltrexone extended release injection, when combined with oral bupropion, is an effective off-label treatment of stimulant use disorder, methamphetamine type. See below and Table 2 for additional considerations.

Acamprosate

- Acamprosate is FDA approved to treat alcohol used disorder and patients do not need to be abstinent from alcohol in order to receive or benefit from treatment with acamprosate.
- Acamprosate's outcomes when used to treat patients with alcohol use disorder are improved when acamprosate is used to treat patients who have already achieved some abstinence from alcohol.
- Adherence to three times daily dosing may limit utility.

Disulfiram

- Alcohol, when consumed by a patient taking disulfiram, causes an aversive reaction that includes flushing, shortness of breath, headache, nausea, tachycardia, and palpitations.
- Patients should be alcohol free for at least 12 hours (or have a 0% Blood Alcohol Concentration) before starting treatment with disulfiram, and patients should abstain from alcohol for not less than 14 days after stopping treatment with disulfiram.
- Disulfiram should not be used in patients likely to continue to consume alcohol.
- Disulfiram is most effective when used to treat patients with alcohol use disorder motivated to experience medication-enforced alcohol abstinence.
- Outcomes for disulfiram are enhanced when its oral administration is directly observed, such as by a clinic staff or supportive adult.
- Patients should be instructed to avoid oral and topical alcohol-containing products including mouthwashes, over-the-counter medications, prescription medications and hand sanitizers.
- Disulfiram should be used with caution to treat patients who have chronic and acute nephritis or hepatic cirrhosis or insufficiency.

Nicotine Replacement Therapy

- Nicotine replacement therapy (NRT) reduces nicotine withdrawal symptoms and cravings without the harm caused by other components of tobacco products.
- NRT can help patients with tobacco use disorder reduce their use of tobacco products and can help them stop using tobacco products completely.
- NRT should be used to treat patients with tobacco use disorder who have not stopped using tobacco products.
- NRT comes in the following formulations:
  - Patch (available over-the-counter for purchase and is covered by Medi-Cal when prescribed)
  - Gum (available over-the-counter for purchase and is covered by Medi-Cal when prescribed)
  - Lozenge (available over-the-counter for purchase and is covered by Medi-Cal when prescribed)
  - Inhaler (available by prescription only; requires prior authorization to be covered by Medi-Cal)
  - Nasal spray (available by prescription only; requires prior authorization to be covered by Medi-Cal)

- Clinicians should offer patients with tobacco use disorder combination NRT (combining the nicotine patch plus one of the other four formulations of NRT) as a first-line treatment, which shows improved outcomes as compared with treatment with a single formulation of NRT.
- See the University of California, San Francico's Smoking Cessation Leadership Center resources for additional treatment considerations: http://smokingcessationleadership.ucsf.edu/behavioral-health/resources/toolkits

Varenicline

- Varenicline binds to nicotinic acetylcholine receptors which both reduces nicotine cravings and withdrawal symptoms, and blocks nicotine from binding to these receptors.
- Varenicline should be used to treat patients with tobacco use disorder who have not stopped using tobacco products.
- Patients with tobacco use disorder can be treated with varenicline for longer than 12 weeks based on the needs of the individual.
- Varenicline can be combined with nicotine replacement therapies (NRT) and with bupropion.
- Varenicline has been shown to **not** increase the risk of neuropsychiatric effects such as depressed mood, suicidality, or aggression in individuals both with and without psychiatric disorders.

Bupropion

- Bupropion FDA-approved to treat depression and to treat tobacco use disorder.
- Bupropion reduces the urge to smoke tobacco products and decreases nicotine withdrawal symptoms.
- Bupropion should be used to treat patients with tobacco use disorder who have not stopped using tobacco products.
- Bupropion can be combined with nicotine replacement therapies (NRT) and with varenicline.
- Bupropion is contraindicated for people who have a seizure disorder or a current or past diagnosis of bulimia or anorexia nervosa.
- Bupropion should be used with caution in patients with a history of experiencing mania.
- Clinicians should give bupropion additional consideration for patients with co-occurring depressive disorders, as this medication can also treat depression.
- Clinicians should consider treating patients with cocaine use disorder with bupropion, which promotes cocaine abstinence. Bupropion works best for cocaine use disorder when combined with contingency management.
- Clinicians should consider treating patients with stimulant use disorder, methamphetamine type who have a low- to moderate-frequency of methamphetamine use (less than 18 days per month) with off-label bupropion, which reduces methamphetamine use.

Topiramate

- Topiramate is an effective off-label treatment for alcohol use disorder, cannabis use disorder, stimulant use disorder (methamphetamine type), and cocaine use disorder.
- Topiramate has multiple possible side-effects including blurred vision, clumsiness or unsteadiness, confusion, dizziness, drowsiness, fatigue, generalized slowing of mental and physical activity, memory problems, and trouble in concentrating or paying attention. The FDA package insert includes a full description of these side effects.
- To manage these side effects, clinicians should consider starting dosing at 25mg by mouth nightly with slow titration for better tolerability (see Table 2).
- Topiramate causes birth defects, so clinicians should not neglect to ensure patients with childbearing potential receive contraception while being treated with topiramate.
- Topiramate reduces alcohol consumption, cannabis consumption, methamphetamine consumption, and cocaine consumption in separate trials involving patients with alcohol use disorder, cannabis use disorder, stimulant use disorder (methamphetamine type), or cocaine use disorder, respectively. Dosing considerations for each condition are included in Table 2.

Gabapentin

- Gabapentin is an off-label treatment for alcohol use disorder and for cannabis use disorder. Dosing considerations are included in Table 2.
- Clinicians should use gabapentin with caution for patients using concurrent opioids or central nervous system depressants given increased risk of respiratory depression. Clinicians should use gabapentin with caution in elderly patients or others at increased risk for falls.
- Dose adjustments are recommended with renal impairment.
- Clinicians should consider treatment with gabapentin when the patient has a co-morbid disorder where gabapentin may confer additional benefits.
- For cannabis use disorder, gabapentin is associated with a reduction in cannabis use and cannabis withdrawal.
- For alcohol use disorder, gabapentin improved drinking outcomes and reduced insomnia and dysphoria.
- This medication is generally considered a second line for treatment of alcohol use disorder, such as when acamprosate and naltrexone are ineffective or contraindicated, or when gabapentin is added to the use of naltrexone, acamprosate, and/or disulfiram to treat alcohol use disorder.
- Higher doses of gabapentin and patients who have three (3) or more days of alcohol abstinence have been associated with more robust impact of treatment with gabapentin on drinking outcomes.

N-acetylcysteine

- N-acetylcysteine is an off-label treatment for cannabis use disorder.
- N-acetylcysteine is available over-the-counter for purchase and requires prior authorization to be covered by Medi-Cal.
- N-acetylcysteine showed reduction in days per week of marijuana use adolescents (15-21 year old) with cannabis use disorder, but these findings were not replicated in

a later larger study of adults. A separate study of N-acetylcysteine used to treat cannabis use disorder in patients with opioid use disorder in treatment with methadone showed reductions in depression and anxiety symptoms, but not cannabis use.
- Dosing considerations are included in Table 2.

Naltrexone in combination with bupropion
- Patients with stimulant use disorder, methamphetamine type treated with extended release naltrexone injection combined with oral bupropion treatment improves reductions in methamphetamine use. The combination of bupropion and extended-release naltrexone is preferred over bupropion alone, when the patient agrees to accept treatment with both medications.
- The trials evaluated injectable—but not oral—naltrexone in combination with bupropion for treatment of stimulant use disorder, methamphetamine type. While clinical trials have evaluated both oral and injectable formulations of naltrexone for ATS use disorder, oral naltrexone has not been studied in combination with bupropion.
- There is no reason to believe that oral naltrexone would be less effective in this population if the patient is adherent to treatment, although injectable medications can facilitate adherence. Consideration of combination bupropion and oral naltrexone would be reasonable for patients who are highly motivated.
- Given that bupropion and naltrexone each treat other conditions (as described above) clinicians should give this combination additional consideration to treat patients who have these co-occurring conditions, who do not otherwise have a contraindication to bupropion and naltrexone.

Mirtazapine
- Mirtazapine shows modest reductions in methamphetamine use when used to treat patients with stimulant use disorder, methamphetamine type. Mirtazapine may also help reduce methamphetamine withdrawal symptoms. These effects were demonstrated when mirtazapine was used to treat men who have sex with men with stimulant use disorder, methamphetamine type.
- These benefits may be tempered by side effects such as weight gain, drowsiness, and metabolic issues (eg, poor glucose control) for some patients.
- Clinicians should give mirtazapine additional consideration for patients with co-occurring depressive and insomnia symptoms, as this medication can also treat depression and help initiate sleep.

Methylphenidate, Modafinil, and Mixed Amphetamine Salts-Extended Release
- For more information about psychostimulants used off-label to treat stimulant use disorder, refer to the American Society of Addiction Medicine and American Academy of Addiction Psychiatry's Clinical Practice Guideline on The Management of Stimulant use Disorder. http://www.asam.org/quality-care/clinical-guidelines/stimulant-use-disorders

Table 1: Buprenorphine Bioequivalence Chart

Suboxone / Generic SL Film or Tablet	Zubsolv SL Tablet	Bunavail Buccal Film	Subutex / Generic SL Tablet	Sublocade monthly SC injection	Brixadi IM or deep SC injection
Buprenorphine/naloxone coformulation			Buprenorphine monotherapy		
1 mg / 0.25 mg (½ a 2mg/0.5mg tab/film)	0.7 mg / 0.18 mg	--	1 mg (½ a 2mg tab)		
2 mg / 0.5 mg	1.4 mg / 0.36 mg	--	2 mg	--	--
4 mg / 1 mg	2.9 mg / 0.71 mg	2.1 mg / 0.3 mg	4 mg	--	8 mg SC q weekly
8 mg / 2 mg	5.7 mg / 1.4 mg	4.2 mg / 0.7 mg	8 mg	100 mg	16 mg SC q weekly or 64mg SC q monthly
12 mg / 3 mg	8.6 mg / 2.1 mg	6.3 mg / 1 mg	12 mg	--	--
16 mg / 4 mg	11.4 mg / 2.9 mg	(2) 4.2 mg / 0.7 mg	16 mg	--	24 mg SC q weekly or 96 mg SC q monthly
24 mg / 6 mg	(2) 8.6 mg / 2.1 mg	(2) 6.3 mg / 1 mg	24 mg	300 mg	32 mg SC q weekly or 128 mg SC q monthly

Table 2: Dosing Considerations for Off-Label Prescribing of Addiction Medications

Medication	Condition	Dosing Considerations
Bupropion	Stimulant Use Disorder, Methamphetamine-Type	Oral bupropion dosed at 300mg daily has been the most studied effective dose to reduce both methamphetamine and cocaine use. For stimulant use disorder, methamphetamine-type, there is some evidence that treatment with oral bupropion extended release 450mg daily (when combined with extended release naltrexone injection) has improved outcomes.[1]
Bupropion	Cocaine Use Disorder	
Gabapentin	Alcohol Use Disorder	Recommended starting dose[2] is 300-600mg TID to QID, titrated as tolerated to minimum target dose of 1800mg total per day.
Gabapentin	Cannabis Use Disorder	One trial[3] showed a positive response with the following dosing schedule: Day 1: one 300 mg capsule in the evening; Day 2: one 300 mg capsule in the morning and another in the evening; Day 3: one 300 mg capsule in the morning, one at midday, and one in the evening; Day 4: one 300 mg capsule in the morning, one at midday, and two 300 mg capsules in the evening. Study participants were maintained the Day 4 dose (totaling 1200 mg/day) for the remainder of the study.
Mirtazapine	Stimulant Use Disorder, Methamphetamine-Type	Oral mirtazapine dosed at 30mg at bedtime has been the most studied effective dose.[1] There are trials where patients were dosed up to 60mg daily. Clinicians can consider starting at 15mg daily for three days prior to increasing to 30mg at bedtime to increase patient tolerability of mirtazapine's adverse effects.
N-acetylcysteine	Cannabis Use Disorder	One trial[4] showed 1,200mg oral N-acetylcysteine taken twice daily improved cannabis abstinence in adolescents (15-21 year old) patients. A separate trial[5] of this dose in adults with cannabis use disorder did not show any impact on cannabis abstinence and a related trial[6] did not show any difference in depressive symptoms in adults with cannabis use disorder in response to treatment with N-acetylcysteine. A subsequent trial[7] of adults with **both** opioid use disorder being treated with methadone and with cannabis use disorder showed reduction in depression and anxiety symptoms in response to 1,200mg oral N-acetylcysteine taken twice daily.

Appendix B Tables 2: Dosing Considerations for Off-Label Treatment with Addiction Medications

Naltrexone	Cannabis Use Disorder	Trials [8,9] show a positive response with 50mg oral naltrexone taken once daily and with 380mg intramuscular naltrexone administered every 28 days. Either dosing strategy can be considered.
Naltrexone in combination with bupropion	Stimulant Use Disorder, Methamphetamine-Type	Trials[10,11] showed a positive response with 380mg extended release naltrexone injection combined with oral bupropion extended release dosed at 450mg daily. Oral bupropion ER can be titrated as follows: 150mg provided on Days 1 and 2, 300mg on Days 3 and 4, and the 450mg on Day 5, with temporary reductions in the oral bupropion dose permitted if there are bupropion-related adverse effects. The effect is strongest when extended release naltrexone injection is administered every three weeks. Medi-Cal covers extended release naltrexone injection administered every 28 days.
Topiramate	Alcohol Use Disorder	Oral topiramate dosed at 200mg daily has been the most studied effective dose for each of these conditions. [1,12,13] There are multiple trials of topiramate used to treat alcohol use disorder at 25 mg at bedtime and titrated up to 300 mg total per day (dosed at 100mg in the morning and 200mg at bedtime) over the course of eight weeks. In general, tolerability to topiramate's side effects is improved when patients are started at 25mg at bedtime for a week, then 50mg at bedtime for a week, then 100mg at bedtime for a week. Depending upon how sedating topiramate is for the patient, patients can be provided with split dosing, such as 50mg in the morning and 150mg at bedtime, to achieve doses of 200mg per day.
Topiramate	Cannabis Use Disorder	
Topiramate	Stimulant Use Disorder, Methamphetamine-Type	
Topiramate	Cocaine Use Disorder	

References

[1] American Society of Addiction Medicine and American Academy of Addiction Psychiatry. Clinical Practice Guideline on The Management of Stimulant use Disorder. http://www.asam.org/quality-care/clinical-guidelines/stimulant-use-disorders

[2] Mason BJ, Quello S, Shadan F. Gabapentin for the treatment of alcohol use disorder. Expert Opin Investig Drugs. 2018 Jan;27(1):113-124. doi: 10.1080/13543784.2018.1417383. Epub 2017 Dec 23. PMID: 29241365; PMCID: PMC5957503. http://www.ncbi.nlm.nih.gov/pmc/articles/pmid/29241365

[3] Mason BJ, Crean R, Goodell V, Light JM, Quello S, Shadan F, Buffkins K, Kyle M, Adusumalli M, Begovic A, Rao S. A proof-of-concept randomized controlled study of gabapentin: effects on cannabis use, withdrawal and executive function deficits in cannabis-dependent adults. Neuropsychopharmacology. 2012

Jun;37(7):1689-98. doi: 10.1038/npp.2012.14. Epub 2012 Feb 29. PMID: 22373942; PMCID: PMC3358737. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3358737

[4] Gray KM, Carpenter MJ, Baker NL, DeSantis SM, Kryway E, Hartwell KJ, McRae-Clark AL, Brady KT. A double-blind randomized controlled trial of N-acetylcysteine in cannabis-dependent adolescents. Am J Psychiatry. 2012 Aug;169(8):805-12. doi: 10.1176/appi.ajp.2012.12010055. Erratum in: Am J Psychiatry. 2012 Aug 1;169(8):869. PMID: 22706327; PMCID: PMC3410961. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3410961

[5] Gray KM, Sonne SC, McClure EA, Ghitza UE, Matthews AG, McRae-Clark AL, Carroll KM, Potter JS, Wiest K, Mooney LJ, Hasson A, Walsh SL, Lofwall MR, Babalonis S, Lindblad RW, Sparenborg S, Wahle A, King JS, Baker NL, Tomko RL, Haynes LF, Vandrey RG, Levin FR. A randomized placebo-controlled trial of N-acetylcysteine for cannabis use disorder in adults. Drug Alcohol Depend. 2017 Aug 1;177:249-257. doi: 10.1016/j.drugalcdep.2017.04.020. Epub 2017 Jun 10. PMID: 28623823; PMCID: PMC5535813. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5535813

[6] Tomko RL, Baker NL, Hood CO, Gilmore AK, McClure EA, Squeglia LM, McRae-Clark AL, Sonne SC, Gray KM. Depressive symptoms and cannabis use in a placebo-controlled trial of N-Acetylcysteine for adult cannabis use disorder. Psychopharmacology (Berl). 2020 Feb;237(2):479-490. doi: 10.1007/s00213-019-05384-z. Epub 2019 Nov 11. PMID: 31712969; PMCID: PMC7024037. http://www.ncbi.nlm.nih.gov/pmc/articles/pmid/31712969

[7] Padoei F, Mamsharifi P, Hazegh P, Boroumand H, Ostadmohammady F, Abbaszadeh-Mashkani S, Banafshe HR, Matini AH, Ghaderi A, Dehkohneh SG. The therapeutic effect of N-acetylcysteine as an add-on to methadone maintenance therapy medication in outpatients with substance use disorders: A randomized, double-blind, placebo-controlled clinical trial. Brain Behav. 2023 Jan;13(1):e2823. doi: 10.1002/brb3.2823. Epub 2022 Nov 30. PMID: 36448959; PMCID: PMC9847617. http://www.ncbi.nlm.nih.gov/pmc/articles/pmid/36448959

[8] Haney M, Ramesh D, Glass A, Pavlicova M, Bedi G, Cooper ZD. Naltrexone Maintenance Decreases Cannabis Self-Administration and Subjective Effects in Daily Cannabis Smokers. Neuropsychopharmacology. 2015 Oct;40(11):2489-98. doi: 10.1038/npp.2015.108. Epub 2015 Apr 16. PMID: 25881117; PMCID: PMC4569951. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4569951

[9] Notzon DP, Kelly MA, Choi CJ, Pavlicova M, Mahony AL, Brooks DJ, Mariani JJ, Levin FR. Open-label pilot study of injectable naltrexone for cannabis dependence. Am J Drug Alcohol Abuse. 2018;44(6):619-627. doi: 10.1080/00952990.2017.1423321. Epub 2018 Feb 8. PMID: 29420073; PMCID: PMC6082728. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC6082728

[10] Trivedi MH, Walker R, Ling W, Dela Cruz A, Sharma G, Carmody T, Ghitza UE, Wahle A, Kim M, Shores-Wilson K, Sparenborg S, Coffin P, Schmitz J, Wiest K, Bart G, Sonne SC, Wakhlu S, Rush AJ, Nunes EV, Shoptaw S. Bupropion and Naltrexone in Methamphetamine Use Disorder. N Engl J Med. 2021 Jan 14;384(2):140-153. doi: 10.1056/NEJMoa2020214. PMID: 33497547; PMCID: PMC8111570. http://www.ncbi.nlm.nih.gov/pmc/articles/pmid/33497547

[11] Mooney LJ, Hillhouse MP, Thomas C, Ang A, Sharma G, Terry G, Chang L, Walker R, Trivedi M, Croteau D, Sparenborg S, Ling W. Utilizing a Two-stage Design to Investigate the Safety and Potential Efficacy of Monthly Naltrexone Plus Once-daily Bupropion as a Treatment for Methamphetamine Use Disorder. J Addict Med. 2016 Jul-Aug;10(4):236-43. doi: 10.1097/ADM.0000000000000218. PMID: 27379819; PMCID: PMC4969133. http://www.ncbi.nlm.nih.gov/pmc/articles/pmid/27379819

[12] Bahji A, Meyyappan AC, Hawken ER, Tibbo PG. Pharmacotherapies for cannabis use disorder: A systematic review and network meta-analysis. Int J Drug Policy. 2021 Nov;97:103295. doi: 10.1016/j.drugpo.2021.103295. Epub 2021 May 30. PMID: 34062288; PMCID: PMC8881089. https://www.ncbi.nlm.nih.gov/pmc/articles/pmid/34062288

[13] Manhapra A, Chakraborty A, Arias AJ. Topiramate Pharmacotherapy for Alcohol Use Disorder and Other Addictions: A Narrative Review. J Addict Med. 2019 Jan/Feb;13(1):7-22. doi: 10.1097/ADM.0000000000000443. PMID: 30096077. http://pubmed.ncbi.nlm.nih.gov/30096077