Medication Assisted Treatment for Addictive Disorders: An Overview

Background Information:

The following information was taken directly from SAMHSA's Treatment Improvement Protocol Series (TIP) series: (Both texts are viewable and downloadable in their entirety online for free as listed below)

- ***TIP 43*** – Medication Assisted Treatment for Opioid Addiction
  http://www.ncbi.nlm.nih.gov/books/NBK14677/

- ***TIP 49*** – Incorporating Alcohol Pharmacotherapies into Medical Practice
  http://store.samhsa.gov/shin/content//SMA13-4380/SMA13-4380.pdf

I. Pharmacotherapeutic Medications for Opioid Addiction Treatment: - The four medications commonly used to treat opioid addiction are:

Methadone:

- Is the most frequently used medication for opioid addiction treatment in opioid treatment programs (OTPs)
- Is a long-acting medication
- Comes in several formulations, including oral solution, liquid concentrate, tablet/diskette, and powder
- Is a full opioid agonist that decreases the pain-killing and other effects of opioids
- Was never formally approved by the Food and Drug Administration (FDA)
- Is a Drug Enforcement Administration (DEA) Schedule II drug
- Is available in outpatient treatment programs.

Buprenorphine:

- Is a derivative of the opium alkaloid thebaine
- Is available as a sublingual tablet or strip
- Does not activate mu receptors fully, so larger doses of buprenorphine do not produce greater agonist effects
- Has an increased margin of safety from death by respiratory depression when increased doses of buprenorphine are used
- Was approved by the FDA in 2002
- Is a DEA Schedule III drug
- Can be administered in a physician's office, OTP, or other medical settings.

Buprenorphine-Naloxone:

- Is a combination of buprenorphine and naloxone
- Is formulated as a sublingual tablet or strip
- Was approved by the FDA in 2002
- Is a DEA Schedule III drug
- Is administered in a physician's office, an OTP, or another healthcare setting

Naltrexone:

- Is a highly effective opioid antagonist
- Has no narcotic effect and produces no withdrawal symptoms when a patient stops using it
- Does not have abuse potential; tolerance does not develop even after months of regular use
- Is formulated as an oral tablet or extended release injectable (Vivitrol)
- Blocks the effects of heroin, morphine, and methadone
- Can cause withdrawal in patients who have not been abstinent from:
    - Short-acting opioids for at least 7 days
    - Long-acting ones, such as methadone, for at least 10 days
- Displaces buprenorphine to a lesser degree, but in high enough doses overrides buprenorphine's activity as well
- Was approved by the FDA for maintenance treatment in 1984
- Is not on the DEA schedule
- Is available in physicians' offices, OTPs, and other substance abuse treatment programs.

II. Findings on Medication-Assisted Treatment for Alcohol Use Disorders (AUDs)

Researchers continue to evaluate the efficacy of numerous compounds to treat AUDs. To date, FDA has approved four medications for treatment of AUDs:

- Acamprosate (Campral®)
- Disulfiram (Antabuse®)
- Oral naltrexone (ReVia®, Depade®)
- Extended-release injectable naltrexone (Vivitrol®).

A comprehensive SAMHSA Medication Assisted Treatment – Patient Fact Sheet – designed for specifically for patients is accessible and printable online at:

- http://store.samhsa.gov/product/Medication-Assisted-Treatment-for-Opioid-Addiction-Facts-for-Families-and-Friends/SMA15-4443

Comparison of Approved Medications for Maintenance of Abstinence from Alcohol

	Acamprosate	Disulfiram	Oral Naltrexone	Extended-Release Injectable Naltrexone
Mechanism of action	Not clearly understood; appears to restore to normal the altered balance of neuronal excitation and inhibition induced by chronic alcohol exposure, possibly through interaction with the glutamate neurotransmitter system	Inhibits aldehyde dehy-drogenase, causing a reaction of flushing, sweating, nausea, and tachycardia when alcohol is ingested	Not clearly understood; opioid antagonist; blocks the effects of endogenous opioid peptides; appears to attenuate euphoria associated with alcohol use; may make alcohol use less rewarding; may reduce craving	Same as oral naltrexone
Examples of drug interactions	No clinically relevant interactions	Metronidazole; medi-cations containing alcohol; anticoagulants such as warfarin; amytripyline; isoniazid; diazepam	Opioid medications; cough/cold medications; antidiarrheal medications; thioridazine; yohimbine	Presumed same as oral naltrexone; clinical drug interaction studies have not been performed
Common side effects	Diarrhea and somnolence	Transient mild drowsi-ness; metallic taste; dermatitis; headache; impotence	Nausea; vomiting; anxiety; headache; dizziness; fatigue; somnolence	Same as oral naltrexone, plus injection site reactions; joint pain; muscle aches or cramps
Contra-indications	Severe renal impair-ment (creatinine clearance ≤ 30 mL/min)	Hypersensitivity to rubber derivatives; significant liver disease; alcohol still in system; coronary artery disease	Currently using opi-oids or in acute opioid withdrawal; anticipated need for opioid analgesics; acute hepatitis or liver failure	Same as oral naltrexone, plus inadequate muscle mass for deep intramuscular injection; body mass that precludes deep intramuscular injection; rash or infection at injection site
Cautions	Dosage may be modified for moderate renal impairment (creatinine clearance 30–50 mL/ min); pregnancy category C†	Hepatic cirrhosis or insufficiency; cerebrovascular disease; psychoses; diabetes mellitus; epilepsy; renal impairment; pregnancy category C†	Renal impairment; chronic pain; pregnancy category C†	Same as oral naltrexone, plus hemophilia or other bleeding problems
Serious adverse reactions	Rare events include suicidal ideation; severe persistent diarrhea	Disulfiram–alcohol reaction; hepatotoxicity; peripheral neuropathy; psychotic reactions; optic neuritis	Precipitates opioid withdrawal if the patient is dependent on opioids; hepatotoxicity (although it does not appear to be a hepatotoxin at recommended doses)	Same as oral naltrexone plus inadvertent subcutaneous injection may cause a severe injection-site reaction; depression; rare events including allergic pneumonia and suicidal ideation