



Workshop

Comprehensive Primary Care Guidelines for Patients who Drink Alcohol and Use Drugs

Summary Document

Version 1.1

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Alcohol

<p><u>Health care maintenance</u></p>	<ul style="list-style-type: none"> ● Cancer Screening: <ul style="list-style-type: none"> ○ Stay up to date on recommended screening due to increased risk of malignancies. ○ Increased risk for lip, oral, pharyngeal, laryngeal, esophageal, stomach, breast, liver, intrahepatic ducts, prostate, and colon cancer. ○ Discuss patient desire for annual vs. biennial mammography and prostate cancer screening. ● Vaccines: PPV-23 x1 for ages 19-64 and x2 for ages >65, Tdap, HAV, HBV, Tetanus, HPV ● Infectious Diseases: HAV, HBV, HCV, HPV, HIV, Gon/Chlam based on risk ● Osteoporosis: Use FRAX to calculate risk, heavy alcohol use prompts screening before age 65 <ul style="list-style-type: none"> ○ Consider vit D and calcium ● IPV screening ● Depression screening ● Falls risk assessment ● Mini-cog or GPCOG for cognitive impairment ● Cardiovascular disease screening: blood pressure, lipids ● Consider multivitamin with B vitamins and thiamine if nutrition inadequate
<p><u>Monitor for complications</u></p>	<ul style="list-style-type: none"> ● ROS: injuries, episodes of blackouts, reflux sx, cardiovascular sx, sexual dysfunction, nutritional intake, neuropathy sx ● Physical exam <ul style="list-style-type: none"> ○ Vitals: Weight loss, BMI, blood pressure ○ Skin: palmar erythema, spider angiomas, jaundice, pallor ○ Cardiac: rhythm, displaced PMI, murmurs, gallops ○ Oropharynx: lesions and hygiene ○ Abd: hepatomegaly, ascites, caput medusae ○ Neuro: tremor, gait, cognition, peripheral nerve sensation, cognition ○ MSK: gout, dupuytren's contracture ● Check on signs and symptoms of withdrawal ● Lab monitoring: CBC, LFTs, INR, basic metabolic panel, lipids, Vitamin D, B12
<p><u>Harm reduction</u></p>	<ul style="list-style-type: none"> ● Looks at alcohol % and consider lower alcohol content beverages ● Count the number of drinks in each day by paying attention to number of drinks and size of drink ● Take your time when drinking and spread out your drinks over time ● Alternate alcoholic drinks with non-alcoholic drinks ● Eat before and during drinking ● Get ice in your drink which dilutes it over time

	<ul style="list-style-type: none"> ● Decrease carbonated beverages ● Utilize a pocket breathalyzer to get a rough estimate of your blood alcohol level ● Pre-plan before a night out: plan your ride, use ride-sharing apps, avoid higher risk activities
<u>Drug-drug interactions</u>	<ul style="list-style-type: none"> ● CNS active medications: sedative hypnotics, anticonvulsants, opioids, antihistamines ● NSAIDS, APAP ● Antihypertensives or vasodilators
<u>Safer use</u>	<ul style="list-style-type: none"> ● Women of any age and men ≥ 65: no more than 3 drinks in one day and 7 drinks in one week ● Men <65: no more than 4 drinks in one day and 14 drinks in one week ● No safer use limits in pregnancy or liver disease ● States have a legal limit for driving, but individuals may be impaired at lower limits
<u>Education</u>	<ul style="list-style-type: none"> ● Continue most medications prescribed by clinicians when drinking (except sedatives or disulfiram) ● If you are admitted to the hospital for any reason, let the care team know about your alcohol use so they can treat any withdrawal symptoms you may experience ● Discuss complications of alcohol use and withdrawal and when to seek care ● Discuss importance of nutrition in chronic alcohol use ● Provide both verbal and written instructions for patients
<u>Language and stigma</u>	<ul style="list-style-type: none"> ● Use person-first language: Person who drinks alcohol ● “Alcoholic” or “drunk” may be a term used by a patient or in different group treatment settings, but not appropriate for medical professionals ● Consider discussion around “high risk alcohol use” instead of alcohol use disorder ● Do not assume patients who do not want to stop or cut back on drinking do not care about their health
<u>Family planning</u>	<ul style="list-style-type: none"> ● Counsel people of all genders and sexual preference around family planning choices ● Alcohol use decreases contraception effectiveness and fertility ● Less is better. No safer use limits in pregnancy: prenatal exposure on risk of FASD and SIDS ● Alcohol is transmitted in breastmilk: Pumping and dumping not recommended, BAL ~ alcohol level in breast milk. For every 1 drink, wait 2-3 hours to breastfeed.
<u>Clinical pearls</u>	<ul style="list-style-type: none"> ● The myth of metronidazole causing a disulfiram like reaction has been debunked ● Alcohol and tobacco are heavily advertised together and also have synergistic effects on cancer risk ● One bottle of wine is equivalent risk of cancer as 5 cigarettes per week for men and 10 cigarettes per week for women ● EtG test is a urine test very sensitive for alcohol metabolites and detects levels longer BAL

Opioids

(See separate section for general information regarding injection drug use)

<p><u>Health Care Maintenance</u></p>	<ul style="list-style-type: none"> ● HCV screening every 6-12 mo, HIV screening at least annual ● HAV, HBV, STI, TB screening ● Offer PREP to high risk and likely to adhere ● Vaccines: PPV-23 x1 ages 19-64 and x2 if >65 and never received; HAV, HBV, Tetanus ● Consider multivitamin if nutrition inadequate ● Consider vit D and calcium for bone health
<p><u>Monitoring for complications</u></p>	<ul style="list-style-type: none"> ● Signs and symptoms of withdrawal ● Signs and symptoms of intoxication ● GI: Constipation ● GU: Urinary retention ● Neuro: MOCA or other cognitive screening for sequelae of hypoxic overdose, Mono-neuropathies due to sedation and pressure injury ● Endocrine <ul style="list-style-type: none"> ○ In men ask about ED, check testosterone, consider bone density scanning in men with long use ○ In women ask about abnormal / absent menses, sexual dysfunction
<p><u>Harm Reduction</u></p>	<ul style="list-style-type: none"> ● Carry naloxone and encourage friends and family members to do so ● Use test doses, Use in company of others, Avoid driving / operating machinery when using ● Avoiding mixing with other drugs, If using other drugs use in sequence rather than all together at once ● Change route of use from injection to anything else ● Plan on using in safer ways, not spending all money on use
<p><u>Drug-drug interactions</u></p>	<ul style="list-style-type: none"> ● Sedatives, BZD's, carisoprodol [Soma], alcohol (increased risk of overdose) ● Stimulants (increased risk of overdose) ● Naltrexone, buprenorphine, mixed agonist/antagonist - risk of precipitated withdrawal
<p><u>Safer Use Limits</u></p>	<ul style="list-style-type: none"> ● Safety dependent on tolerance, no safe dose of fentanyl and other super-potent synthetics due to unequal distribution in cut. ● Duration of action varies between opioids and different people, safe intervals between use may vary

<p><u>Education and Counseling / Anticipatory Guidance</u></p>	<ul style="list-style-type: none"> ● If just starting or experimenting - possibility / likelihood of physical dependence and withdrawal when stopping ● Changes in tolerance with even short periods of abstinence and high risk of overdose if resuming “regular” dose when coming out of jail, program, hospitalization other period of abstinence ● Keep substance or pills away from young children (who put anything in their mouths) or others likely to take them ● Good samaritan laws re overdose: ok to call 911 without fear of being sued or arrested for possession ● Many street drugs are contaminated or do not contain what they are supposed to, can be too much or too little ● Jails and prisons are increasingly offering continued treatment for those already on buprenorphine or methadone, know current status for your county and state, being on treatment may be better than not for avoiding withdrawal ● Hospitals can treat withdrawal for any patients who are admitted for any condition
<p><u>Language and Stigma</u></p>	<ul style="list-style-type: none"> ● Person-first language: Person who uses opioids (heroin, fentanyl, etc) ● Avoid terms such as addict, junkie, dopefiend, patients may use to describe themselves but not appropriate for medical professionals ● Reassure that you understand that patient with concerns are not “just drug seeking” ● Consider discussing symptoms around physical “dependence” if language around use disorder or addiction does not resonate with patient
<p><u>Family Planning</u></p>	<ul style="list-style-type: none"> ● Counsel people of all genders and sexual preference on family planning choices ● The following apply to premenopausal individuals with uterus and ovaries not using LARC <ul style="list-style-type: none"> ○ Can still become pregnant despite amenorrhea ○ When reducing or abstaining from opioid use may have return of menses and fertility, even if they have been sexually active without contraception for years ○ If not desiring pregnancy need for contraception (eg LARC) ○ If unsure or desiring pregnancy: family planning - contraceptive choices, prenatal vitamin, counseling re: safety of buprenorphine and methadone in pregnancy, danger of episodes of withdrawal in pregnancy
<p><u>Clinical Pearls</u></p>	<ul style="list-style-type: none"> ● “Methadone eats up your bones” is a myth but it is true that vitamin D deficiency and hypogonadism are very common in individuals on methadone maintenance (and many other opioid users) and these are treatable and may prevent osteoporosis if diagnosed and treated. ● False positive syphilis tests (RPR, VDRL) are common in individuals who use heroin and those on methadone maintenance - always get confirmatory Treponemal test before treating or alarming patient and partners

Injection Drug Use

<p>Health Care Maintenance</p>	<ul style="list-style-type: none"> ● HCV screening every 6-12 mo ● HIV screening at least annual ● Offer PREP to high risk and likely to adhere ● STI screening, TB screening ● HBV, HAV prevaccination serological testing ● Vaccines: PPV-23 x1 ages 19-64 and x2 if >65 and never received, tetanus, HAV, HBV <ul style="list-style-type: none"> ○ if pre-vaccination serological testing is likely to delay vaccine; administer vaccine if high risk
<p>Monitoring for complications</p>	<ul style="list-style-type: none"> ● Risk factor history: sharing behavior, sexual behavior, violence ● Vitals: Temperature <ul style="list-style-type: none"> ○ High index of suspicion for any fever due to risk of Systemic bacterial infections <ul style="list-style-type: none"> ■ endovascular, epidural, bone and joint, sepsis ■ Consider 2 sets of blood cultures for any significant fevers even in flu season ● Systemic symptoms: Acute HIV ● Skin: abscess, cellulitis, necrotizing fasciitis, wound botulism, scars, post-inflammatory hyperpigmentation. <ul style="list-style-type: none"> ○ Deep infections: psoas abscess, osteomyelitis ● Cardiovascular: intravascular infections, thromboembolic disease including septic pulmonary emboli, mycotic aneurysm, venous insufficiency and lymphedema. ● Cardiac: auscultation with careful documentation of murmur or abnormal heart sound that would indicate susceptibility to or presence of endocarditis ● Pulm: Community acquired pneumonia: occurs 5-7 times more frequently than general population ● GI: Acute HBV or HCV ● Neuro: epidural abscess, brain abscess, Hepatitis or HIV associated nephropathy ● Lab monitoring: Renal function (secondary amyloidosis), LFTs
<p>Harm Reduction</p>	<ul style="list-style-type: none"> ● Carry naloxone and encourage friends and family members to do so ● Skin preparation (use alcohol swab and rub site 100 times), site rotation, use sites other than neck and groin, avoid injecting through clothing ● Flick, don't lick syringe ● Syringe services programs when available- physicians in the District of Columbia and all states except Delaware and Kansas are allowed to prescribe or dispense syringes to PWID ● Use needle, syringe, cooker, cotton (any kind of filter) once and by one person only ● Use clean water

	<ul style="list-style-type: none"> ● Use filters if injecting pills, prefer clean cotton over tampons or cigarette filters ● Safely discard used equipment ● Use alternative route of administration, even if possible or desirable only some of the time, to minimize the number of injections ● When using both an opioid and a stimulant (speedball, goofball) consider injecting opioid and then inhaling or smoking methamphetamine or cocaine
<p>Education and Counseling / Anticipatory Guidance</p>	<ul style="list-style-type: none"> ● Syringe services programs (CDC) infographic ● HCV prevention (CDC) ● HIV prevention (CDC) ● Specific counseling on susceptibility to HCV reinfection in those with resolved (medically or spontaneously) infection ● PrEP 101 (CDC) ● Recognition of infectious and other complications - when to seek medical care
<p>Language and Stigma</p>	<ul style="list-style-type: none"> ● Person who injects drugs (PWID) ● Do not assume that PWID is not concerned about and wishing to preserve their health
<p>Clinical Pearls</p>	<ul style="list-style-type: none"> ● Injectional anthrax in heroin use ● TTP with injected oxymorphone ER ● Sterile abscess is marked by lack of signs of inflammation, fluctuance, or other signs of infection, antibiotics and I&D are not required but indurated subcutaneous areas may persist from weeks to months

Methamphetamine (MA)

<p><u>Health care maintenance</u></p>	<ul style="list-style-type: none"> ● Infectious disease screening as appropriate for age and for injection and sexual risk behaviors that are often associated with amphetamine-type stimulants <ul style="list-style-type: none"> ○ HAV, HBV, HCV, HIV, Gon, Chlam, syphilis, TB ● Offer PREP to high risk and likely to adhere ● Vaccines: PPV-23 x1 ages 19-64 and x2 if >65 and never received, tetanus, HAV, HBV <ul style="list-style-type: none"> ○ if pre-vaccination serological testing is likely to delay vaccine; administer vaccine if high risk ● Screen for depression and anxiety ● Screen for cognitive deficits
<p><u>Monitor for complications</u></p>	<ul style="list-style-type: none"> ● General: Weight loss, hygiene and grooming ● Skin: Picking, neurodermatitis; cellulitis/ abscess and other skin/soft tissue infections, esp in PWID ● Intranasal use: rhinitis, mucosal atrophy, rhinorrhea, smell, oronasal fistula, septum perforation ● Oropharyngeal: Teeth grinding and jaw clenching, dentition, earache, headache, facial pain ● Cardiovascular: hypertension, tachycardia, arrhythmia, ischemia, pulmonary HTN, heart failure ● GU: Chronic kidney disease, acute rhabdomyolysis, acute cortical necrosis and necrotizing vasculitis ● Endocrine: Erectile dysfunction ● Neuro: abnormal involuntary movement disorders, rigidity, tremor; stroke, seizure; cognitive impairment (memory, attention) ● Psych: Psychoses, mood disorders (anxiety/depression), ADHD overlap ● Acute sympathomimetic toxidromes with severe hyperthermia causing brain damage, rhabdomyolysis, cardiovascular collapse, and multiple organ failure
<p><u>Drug-drug interactions</u></p>	<ul style="list-style-type: none"> ● CYP2D6 and CYP3A4 inhibitors may increase MA levels ● Antacids: may decrease the excretion of amphetamine ● Concurrent use with sildenafil or other phosphodiesterase inhibitors increase risk of STDs (especially syphilis and HIV) and cardiovascular complications, including death
<p><u>Safer Use Limits</u></p>	<ul style="list-style-type: none"> ● How might you go about setting a time limit for using before you use? ● Reset your tolerance with sustained periods of non-use ● Plan for a longer duration of action. Smoking produces a long-lasting high: 50% of the drug is removed from the body in 12 hours.

<p><u>Harm reduction</u></p>	<ul style="list-style-type: none"> ● What options do you have for safer routes of administration, i.e. smoke, snort, swallow, booty bump? ● Drinking water and eating before and during use helps prevent dehydration and weight loss ● Brushing and flossing teeth daily and keeping hydrated reduce dental caries ● Anticipating and factoring in 'crash' time allows you to get to work or meet other obligations on time. ● Practicing sexual harm reduction (condoms, PrEP, PEP, serosorting seropositioning, lube for anal sex, choosing more known than anonymous partners) prevents unwanted infections ● Fentanyl contamination is real: know how to use fentanyl test strips and tester doses; carry and administer naloxone; educate friends and family about opioid overdose prevention and treatment
<p><u>Education</u></p>	<ul style="list-style-type: none"> ● Write down and visually review instructions with patients: auditory memory is more negatively impacted and slower to recover than visual memory. ● Review recovery potential of heart function in patients with heart failure ● Learn and share eligibility for advanced heart failure therapies at your local institution ● Develop a plan together for addressing possible depression and fatigue during periods of non-use: nutrition, exercise, psychiatric consultation, antidepressant therapy
<p><u>Language and stigma</u></p>	<ul style="list-style-type: none"> ● Person who uses methamphetamine or stimulants ● Know the street names: Chalk, Meth, Speed, and Tina; or, for crystal meth, Crank, Fire, Glass, Go fast, and Ice ● Inquire about how a patient uses without judgment; some routes of administration carry more stigma among patient communities and providers
<p><u>Family planning</u></p>	<ul style="list-style-type: none"> ● Adolescents: independent association with risky sexual behavior and with unplanned pregnancy ● Pregnancy: shorter gestational ages and lower birth weight. Stopping use at any time during pregnancy improves birth outcomes. ● Breastfeeding not recommended if actively using MA; higher MA concentrations in breast milk than maternal plasma
<p><u>Clinical pearls</u></p>	<ul style="list-style-type: none"> ● Hypotension due to profound depletion of catecholamines may be seen in MA overdose ● Labetalol approved for stimulant-related unstable angina/non-STEMI ● Unlike men with late presentations of severe dilated cardiomyopathy, women predominantly develop Takotsubo type cardiomyopathy ● Many prescription and OTC medications, including intranasal decongestants containing levmetamfetamine, may cause positive urine drug tests for amphetamines.

Cocaine

<p><u>Health care maintenance</u></p>	<ul style="list-style-type: none"> ● Infectious disease screening as appropriate for age and for injection and sexual risk behaviors that are often associated with amphetamine-type stimulants <ul style="list-style-type: none"> ○ HIV, HBV, HCV Screening ○ STD screening ● Screening for depression and anxiety, cognitive defects ● Vaccination: Td, HAV, HBV, PPV-23 x1 ages 19-64 and x2 if >65 and never received ● Discuss weight and malnutrition: suggest vitamin supplements
<p><u>Monitor for complications</u></p>	<ul style="list-style-type: none"> ● Vitals; Blood pressure ● Cardiac: MI from vasospasm, arrhythmias due to hypokalemia ● Pulmonary: asthma, eosinophilic pneumonitis (when inhaling) ● Nose: oronasal fistula, septum perforation ● Neuro: movement disorders, Parkinson's (striatal hypertrophy) ● GI: proctitis (boofing) ● Levamisole toxicity (vasculitis, neutropenia, nephropathy)
<p><u>Harm reduction</u></p>	<ul style="list-style-type: none"> ● Fentanyl test kits (cut with heroin or fentanyl) ● Naloxone ● What options do you have for safer routes of administration, i.e. smoke, snort, swallow, booty bump? ● Drinking water and eating before and during use helps prevent dehydration and weight loss ● Anticipating and factoring in 'crash' time allows you to get to work or meet other obligations on time.
<p><u>Drug-drug interactions</u></p>	<ul style="list-style-type: none"> ● With alcohol: cocaethylene; more cardiotoxic than cocaine
<p><u>Safer use Limits</u></p>	<ul style="list-style-type: none"> ● How might you go about setting a time limit for using before you use? ● Reset your tolerance with sustained periods of non-use ● The estimated minimal lethal dose of cocaine is 1.2 g, but individuals with hypersensitivity to cocaine have died from as little as 30 mg
<p><u>Education</u></p>	<ul style="list-style-type: none"> ● If "crash": rest, hydrate, drink juice and eat even if not hungry

	<ul style="list-style-type: none">● Avoid mixing with other drugs (alcohol/ speedball) or stagger use- higher risk of overdose● Don't share straw, needles, glass stems or pipes, don't use rolled up dollar bills (not clean)● Snorting: alternate nostrils, straw high up in nose to avoid cocaine trapped in nasal hair● Smoking: Cover the mouthpiece of the stem with rubber or tape to avoid cuts or heat burns● let the pipe cool down between hits● If chasing, use real tinfoil and not foil from packaged foods like candy bars.
<u>Family planning</u>	<ul style="list-style-type: none">● Increased risk of miscarriage and placental abruption● 25 % increased chance of premature labor● Cocaine crosses the placenta● Breastfeeding not recommended due to high concentrations in milk
<u>Clinical pearls</u>	<ul style="list-style-type: none">● The mixed beta/alpha blocker labetalol has been shown to be safe and effective for treating concomitant cocaine-induced hypertension and tachycardia,

Tobacco

<u>Health care maintenance</u>	<ul style="list-style-type: none"> ● Annual low-dose computed tomography if: (1) Are ages 55-80 years old with 30 pack-year smoking history <i>and</i> (2) Who currently smoke or quit within the last 15 years. Screening indicated until 15 years after cessation. ● One-time screening with abdominal US for AAA in men ages 65 to 75 who have ever smoked, regardless of time since cessation. ● Consider tobacco use as a risk factor for the development of several cancers, including lung, colon, mouth and throat, larynx, stomach, and bladder (varying based on route of tobacco use) ● Include smoking in risk assessment for hyperlipidemia, cardiovascular disease, and osteoporosis. ● Vaccinations: Td, PPV-23 x1 ages 19-64 and x2 if >65 and never received
<u>Monitor for complications</u>	<ul style="list-style-type: none"> ● General: smoke-odored clothing ● Cardiovascular disease: CAD, CVA, PVD ● Oropharyngeal/laryngeal: Stained teeth, Higher index of suspicion for non-healing oral lesions or other oral, pharyngeal, laryngeal, or neck symptoms such as hoarseness, submandibular or cervical lymphadenopathy ● Pulm: increased expiratory phase, coarse breath sounds, wheezing or other adventitious sound ● Skin: stained fingernails, premature signs of aging; clubbing of fingernails
<u>Drug-drug interactions</u>	<ul style="list-style-type: none"> ● Tobacco smoke up-regulates CYP1A2 and CYP2B6 activity, and changes in smoking behavior may impact metabolism of meds: clozapine, olanzapine, methadone, and warfarin
<u>Safer Use Limits</u>	<ul style="list-style-type: none"> ● Smoking less reduces health-related risks, though there is no recommended “safe” limit ● Newer evidence that even 1 cigarette significantly increases cardiovascular risk, about half the risk as smoking an entire pack of cigarettes per day ● The long-term health consequences of electronic cigarettes are unknown
<u>Harm reduction</u>	<ul style="list-style-type: none"> ● Limit exposure to second-hand smoke, try smoking outside only ● Electronic cigarettes may be effective to encourage tobacco cessation, though patients who use electronic cigarettes are more likely to continue using them
<u>Education</u>	<ul style="list-style-type: none"> ● Benefits of smoking cessation accrue over time: improvement in circulation and lung function in months and decreased risk of cardiovascular disease and cancer over years ● For patients interested in quitting smoking, setting an abrupt quit date for tobacco abstinence is more effective than strategy of gradually decreasing number of cigarettes smoked ● Using medications for smoking cessation and/or using nicotine replacement therapy significantly increases success to smoke less or to stop smoking ● Utilize Quit Lines, mobile technologies to help with reducing smoking (1800-QUITNOW, 1800-

	<p>NOBUTTS)</p> <ul style="list-style-type: none"> • More teens are vaping nicotine, vaping is correlated with subsequent cigarette smoking • If using electronic nicotine delivery systems, keep liquid nicotine products out of reach of children
<u>Language and stigma</u>	<ul style="list-style-type: none"> • People who use tobacco still face a lot of stigma about their use • Ask permission to talk about tobacco use and then assess readiness to decrease tobacco use. • Consider the Ask, Advise, Assess, Assist, and Arrange framework: <ul style="list-style-type: none"> ○ For the patient interested in quitting, use the 5As ○ For the patient not interested in quitting, enhance motivation using motivational interviewing • Brief interventions have been shown to be effective for smoking cessation
<u>Family planning</u>	<ul style="list-style-type: none"> • Increased rates of venous thromboembolic disease among smokers who use contraceptive methods with combined estrogen and progesterone • Smoking is linked to higher rates of low birthweight, stillbirth, SIDS, and pre-term labor • Smoking cessation during pregnancy <ul style="list-style-type: none"> ○ Psychosocial interventions are first-line ○ The American College of Obstetrics and Gynecology: insufficient evidence to evaluate the safety of nicotine replacement therapy, bupropion, and varenicline during pregnancy. ○ Expert opinion favors the use of nicotine replacement therapy or bupropion instead of varenicline, due to very little data about varenicline. • Nicotine is transmitted into breast milk, so nicotine replacement therapy goal is to decrease nicotine exposure in breast milk and also decrease second-hand smoke exposure to the infant
<u>Clinical pearls</u>	<ul style="list-style-type: none"> • Waterpipe smoking (i.e. hookah) is perceived to be safer than combustible cigarettes. However, studies show an association between waterpipe smoking and cancer risk of the head and neck, esophagus, and lung • Weight gain and new type 2 diabetes are common after smoking cessation. However, cardiovascular health benefits of smoking cessation are greater than the risk of weight gain and diabetes • Exposure to retail advertising leads to smoking initiation. Children who shop at stores with tobacco 2 or more times a week are 64% more likely to start smoking than their peers who don't

Cannabis

<u>Health care maintenance</u>	<ul style="list-style-type: none"> ● Vaccines and infectious disease screening as appropriate for age ● Screen for depression and anxiety ● Assess for PrEP
<u>Monitor for complications</u>	<ul style="list-style-type: none"> ● Acute: Spontaneous pneumothorax, Effects on blood pressure, Angina, Neurocognitive deficits, Psychosis ● Chronic: Neurocognitive deficits (limited evidence), Psychosis/psychotic disorders, Bronchitis, Aspergillus (smoked forms of cannabis)
<u>Drug-drug interactions</u>	<ul style="list-style-type: none"> ● CNS depressants/Sedatives (benzos, barbituates, anticonvulsants, opioids) - additive effect ● Clobezam - High dose CBD interaction with Clobezam (should use lower dose of clobezam to avoid oversedation) ● SSRIs: cannabis use can exacerbate mood and anxiety symptoms, SSRIs are still safe ● Antipsychotics: consider cannabis-induced psychosis. ● Cannabis may inhibit with CYP450 leading to decreased warfarin metabolism ● THC is oxidized by (CYP) 2C9, 2C19, and 3A4
<u>Safer Use Limits</u>	<ul style="list-style-type: none"> ● Discuss increased potency (THC content) of modern cannabis products ● Use activities to avoid: Daily use, synthetic cannabinoids, deep inhalation, valsalva breaths ● Dabbing, stacking, waxes deliver higher concentration of psychoactive THC and may have more pronounced health effects ● Adolescents: recommend no use, later in life is better. ● Pregnancy: recommend no use due to risk of low birth weight. Less is better. ● Safe limit for driving is unknown, substantial evidence for increased risk of motor vehicle accidents.
<u>Harm reduction</u>	<ul style="list-style-type: none"> ● Avoid combining with tobacco (spliffs, blunts, etc) ● Avoid combining with other drugs and alcohol ● Use lower potency THC products, higher CBD to THC ratio, or CBD-only products ● Use edibles to decrease exposure to inhaled irritants ● Edibles can take ~90 min to have an effect, take your time (at least 60 minutes) when dosing edibles ● Consider vaping vs. smoking to decrease exposure to inhaled irritants from combustion ● Avoiding driving, biking, operating heavy machinery

	<ul style="list-style-type: none"> ● Pre-planning - not driving, ride-sharing apps ● Counseling on synergistic effects of other medications - see drug-drug interactions
<u>Education</u>	<ul style="list-style-type: none"> ● Younger age of use initiation increases risk for the development of cannabis use disorder. ● Labeling of THC, CBD content may not be accurate ● Edible products are appealing to children. Use child-proof containers to avoid accidental exposure ● Cannabis “breathalyzer” in development. Accuracy is currently unknown. More research needed.
<u>Language and stigma</u>	<ul style="list-style-type: none"> ● Medical professionals should avoid using “pot head” or “stoner” ● The term “medical” marijuana can be misleading as cannabis is not subject to the same efficacy and safety studies and standards as FDA-approved pharmaceuticals.
<u>Family planning</u>	<ul style="list-style-type: none"> ● Screen for pregnancy desire in all premenopausal individuals with uterus and ovaries not using LARC ● If no desire for pregnancy, discuss effective contraception (LARC) ● Adolescents may be less likely to use condoms if using cannabis. ● If desire pregnancy, discuss risk of lower birth weight infants. No safer limit, but less is better. ● Cannabis use during breastfeeding is not recommended but benefits may outweigh risk
<u>Clinical pearls</u>	<ul style="list-style-type: none"> ● Water pipes / bongs cool smoke but do not reduce exposure to inhaled irritants and may expose users to infectious agents such as <i>pseudomonas aeruginosa</i> or <i>mycobacterium tuberculosis</i>. ● Some labs may exclude cannabis in urine drug screening panels ● Most urine drug screening panels will not identify synthetic cannabinoids but screening for synthetic cannabinoids is now included in routine military drug testing.

Inhalants

<p><u>Health care maintenance</u></p>	<ul style="list-style-type: none"> • Vaccines and infectious disease screening as appropriate for age • Screen for Adverse Childhood Events, depression, anxiety • Take a thorough sexual history and assess for PrEP
<p><u>Monitor for complications</u></p>	<ul style="list-style-type: none"> • Lethal ventricular dysrhythmias and cardiac arrest (sudden sniffing death syndrome) • Bone marrow suppression (benzene, gasoline) • Liver failure (halogenated compounds) • Kidney failure (halogenated compounds) • Cognitive impairment, impaired coordination, ataxia • Loss of vision due to retinal damage (chronic nitrite use) • Decreased hearing due to inner ear damage (toluene) • Cranial nerve abnormalities (most often the trigeminal nerve) • Peripheral neuropathy due to vitamin B12 deficiency (chronic nitrous oxide use) • Corneal injury, frostbite of the oral, pharyngeal soft tissues from computer dusters • Blisters, burns, scars, contact dermatitis, severe skin dryness • Muscle wasting
<p><u>Drug-drug interactions</u></p>	<ul style="list-style-type: none"> • Amyl Nitrate (Poppers) in combination with ANY medication known to cause decreased blood pressure may cause severely low blood pressure and syncope (especially Phosphodiesterase 5 inhibitors). • Amy Nitrate in combination with dapsone or local anesthetics may increase the risk of methemoglobinemia • Nitrous Oxide (“whip its”) in combination with CNS Depressants (alcohol, benzodiazepines, opioids, cannabinoids) may lead to severe CNS depression / sedation • Nitrous oxide in combination with methotrexate may lead to increased toxic effects of methotrexate. Risk category X (avoid combination) • Nitrous Oxide in combination with SSRIs may increased risk of psychomotor impairment.
<p><u>Safer Use Limits</u></p>	<ul style="list-style-type: none"> • Unknown
<p><u>Harm reduction</u></p>	<ul style="list-style-type: none"> • Use outdoors or in a ventilated area • Avoid using near flame (cigarettes, etc)

	<ul style="list-style-type: none"> ● Don't use alone ● Remain seated during use to avoid falls ● Avoid inhaling directly from the container to avoid damage to the skin and/or lungs ● Do not place plastic bag over the head to avoid suffocation risk. Inhale by placing bag over the nose/mouth only ● Space out use and take breaths of fresh air between doses to avoid loss of consciousness and/or death ● Avoid direct skin contact with volatile substances ● Do not drive or operate machinery
<u>Education</u>	<ul style="list-style-type: none"> ● Keep substances away from young children (who put anything in their mouths) or others likely to take them (adolescents) ● Death can occur from a single use (sudden sniffing death)
<u>Language and stigma</u>	<ul style="list-style-type: none"> ● Use person first language ● Common street names for Nitrites: Whippets, Poppers, Ames ● Common street names for Aerosols: Aroma of men (deodorant) ● Common street names for Solvents: Whiteout, Snotballs
<u>Family planning</u>	<ul style="list-style-type: none"> ● Fetal solvent syndrome (facial anomalies, delayed growth, impaired neurobehavioral development) ● Screen for pregnancy desire ● Discuss effective contraception for all reproductive-age women. ● LARC methods are safe for use in adolescents
<u>Clinical pearls</u>	<ul style="list-style-type: none"> ● People with clinical vitamin B12 deficiency from chronic nitrous oxide use may have normal serum vitamin B12 levels. Look for an elevated serum homocysteine level to confirm clinical vitamin B12 deficiency. ● "Degreaser's flush" - disulfiram-like reaction from combo of trichlorethylene and ethanol