



# First Aid *for* Cannabis Smokers

10 ways to reduce the health risks of smoking marijuana

**BY MARK MATHEW BRAUNSTEIN**

The War on Drugs is losing, and pot is winning. Here in New England, every state has legalized medical marijuana; every state but New Hampshire has decriminalized recreational pot; and Vermont, Maine and Massachusetts now are poised to fully legalize pot use by adults. With cannabis use growing, and its social acceptance growing, it's high time for prohibitionists to stop fighting it and to learn to live with it. And time for us to learn how to reduce the health hazards of smoking pot.

## Smoke and Mirrors

All drugs pose risks. Whether medicinal or recreational, whether herbal or pharmaceutical, whether legal or illicit, every drug produces undesirable side effects. Cannabis in itself may pose few risks, but inhaling its vape or its smoke can compromise your health. Smoke is the archetypal smoking gun. You might try fooling yourself, but no ploy of smoke and mirrors can fool your lungs. Even incense, which fools the nose, fouls the lungs.

Due to the inherent dangers of breathing any sort of smoke, many alternative methods of delivering cannabinoids to licensed patients now are sold in state-supervised dispensaries. These include oral sprays, alcohol tinctures, topical cremes, transdermal patches, sublingual strips, oil extracts, vape oils, eye drops, lip balms, capsules, waxes, salves, shatter, crumbles, and a whole smorgasbord of medibles (medical edibles). Despite this cornucopia, half of all patients still choose cannabis in its natural form as buds (flowers). Nearly all recreational users imbibe in bud because they are banished from legal access to more healthful alternatives (what's wrong with this picture?). And both groups consume that bud by vaping or smoking.

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### Coughs and Colds

Cannabinoids contain the psychoactive and medicinal components of cannabis. Except for the palliative cannabinoids in cannabis and the addictive nicotine in tobacco, the smoke of the two herbs is quite similar. As smoke, both contain ash, tar, carbon monoxide, and a host of lesser known noxious fumes. As smoke, both can irritate the entire respiratory tract and cause coughing, wheezing, and spitting. As smoke, both can narrow air passages and thereby reduce lung capacity. As smoke, both can cause cellular damage to your lungs, which lowers your resistance to respiratory illnesses such as colds, flu, pneumonia, and bronchitis.

Studies link cannabis smoke to lung damage, but not to lung cancer. Statistical evidence indicates that Sixties hippies now in their sixties who continued lifelong casual smoking of pot, but never of tobacco, show no higher incidence of lung cancer than their peers who smoked neither. Preliminary evidence even indicates that cannabinoids can actually prevent or possibly reverse cancer. So among your average of 25,000 daily breaths of fresh air, do not worry about cancer from 25 tokes of cannabis smoke. Because worrying can cause more harm than smoking.

Still, smoke of any kind can only impair, not improve, pulmonary function, so you should observe some precautions to minimize that risk. The ten safeguards addressed here include: 1) The Breath; 2) Ignition Systems; 3) Rolling Papers; 4) Pipes; 5) Water Pipes; 6) Vaporizers; 7) Seeking Purity; 8) Seeking Potency; 9) Preserving Potency; 10) Green Diet

**1. Don't hold your breath!** Inhale deeply if you wish, but do not hold in that inhale. Once the delicate membranes of the cilia of your lungs are coated by the smoke-filled air, no length of holding your breath will promote any further absorption of the cannabinoids. Cannabinoids are quickly absorbed through the lungs. Tars, however, are absorbed more slowly. So holding your breath only further irritates your lungs with greater intake of those gummy tars, as well as yummy carbon monoxide. So take it easy, breathe easily, and don't hold that hit!

Several scientific studies have proven the needlessness of the breathtaking experience of holding your breath. Ethnobotanic drug guru turned holistic health guru Andrew Weil, M.D., too, advocates not holding your breath. If you remain skeptical, perform some animal experiments, the animal being you. Guided by a stopwatch, go ahead and time yourself. A lifetime of smoking in your traditional manner might be a hard pattern to change. Yet the number one health safeguard you can apply to reduce lung damage is to not hold your breath.

**2. Ignition system tune-up time.** No scientific study sheds any light upon the health hazards of incendiary devices, commonly called lighters and matches. Still, the foul odors of these ignition systems convince us that they are unsafe. So beware that first toke!

**LIGHTERS** fueled by petroleum distillates do not belong in your face. Butane in itself is far more toxic than cannabis, so the fumes from its combustion surely are more harmful, too. Avoid lighter pollution.

**MATCHES** are potentially safer if you patiently wait for the flaming sulfur-tip to burn out before you hold the match to your bud. In practice, however, you inhale the burning sulfur when you strike the match. If you are smelling it, then you are breathing it. Hot air rises, so ignite that match high above your head.

**PIPES** can multiply the ignition problem. Smoked leisurely, especially during solo sessions, cannabis snuffs out easily, requiring several stokes per bowl. That's toxic buildup. So here's a hot tip about sulfur-tip matches and butane lighters. Use just one match or one flick, not to light your pipe, but to light a candle.

**CANDLES** are true drug paraffin-alia! Light a candle, set the tip of a toothpick afire on its flame, and toke up your pipe with the burning toothpick, not matchstick or candlestick. No sulfur or butane fumes in your face nor in your lungs. Natural fiber wood to the rescue. Note that thin flat toothpicks burn truer than thicker round ones.

**SCREENS** for the bowls of pipes should never be homemade from aluminum foil punctured with pinholes. After just one use, the foil disintegrates. Where did it go? Into your lungs! Use the round screens sold in smoke shops made of more durable metals.

But beware a thin coating of wax sometimes applied to assure a grip to the blade that cuts those circles. So first toast a new screen over your candle before inserting it into the bowl of your pipe. If asked what you are doing, just say you are screening for drugs.

**3. Take an active role with rolling papers.** Rolling papers of joints (cannabis cigarettes) hold the cannabis, hold back its combustion, and aerate its smoke. The thinner the joint, the more the aeration. But offering no psychoactive nor medicinal effect, even paper-thin paper adds to the toxic load, especially of ash. So be frugal with rolling papers.

Research shows that the cannabis in the roach (the butt) filters out tars streaming from the cannabis on the ember end, and does so more effectively than does a water pipe. But that helps only if you throw the roach out rather than smoke it down, which makes for a very expensive filter. So instead fill the butt end with some other herb, for instance oregano, and discard that.

Whatever the herb, the burning ember dangles perilously close to fingertips and to lips, and numerous studies have proven that burns are not conducive to good health. To prevent such burns, use smoking tips, which are like filter tips without the filter. While smoking tips are marketed commercially, you can roll your own from strips of thin non-corrugated cardboard, such as used for packaging, guess what, rolling papers and matchbooks. Or cut a beverage straw into filter-tip lengths. Do not use the plastic straws sold in supermarkets, but rather paper straws sold only in health food stores.

A sort of exterior smoking tip not discarded with each joint is the long, slender cigarette holder, similar to pipe stems. But then you might as well skip the paper and go straight to a pipe.

**4. Pipes are more than just pipe dreams.** Smoke is hot and dry. Same as does the desiccated air of indoor heating, smoke dries out your mouth and throat which makes you more susceptible to colds and flu. A pipe, especially its stem, cools down the smoke. The longer the stem, the cooler. Arm's length is long enough. That also keeps the burning match or lighter or toothpick far from your mouth. You inhale fewer of those fumes. And smoke never gets in your eyes.

The long stem must be segmented for dismantling for efficient cleaning. The inside wooden walls of the bowl and stem are very efficient tar traps, yet another benefit of using a pipe. Even better, the sticky tar in turn traps relatively heavy ash. Usually only the first segment closest to the bowl ever needs cleaning, rarely the segment nearest you, an encouraging sign that your mouth is far from the tar .

Pipes are made of glass, metal, corn cob, stone, ceramic, and wood. Glass is fragile and breakable and difficult to clean. Metal imparts an unpleasing metallic taste to the smoke and is heavy to lug. Corn cob with its varnished outer shell burns so easily that the entire bowl is flammable. The safest bowls are inert ceramic or stone dead stone. Smoke shops stock soapstone and sandstone pipes, but with virtually no stems. That leaves wood as the safest option for pipes.

Wood as a natural fiber even imparts an agreeable aroma to the smoke. Despite a plethora of pipes sold in smoke shops, segmented long-stemmed wooden pipes are more likely found in Asian Indian import stores. For a demonstration of short tokes from a long-stemmed segmented wooden pipe lit with toothpicks, view this Wall Street Journal (yes, Wall Street Journal) two-minute instructional video at: <https://youtu.be/2Zp1DoxodW0>.

**5. Water pipes and the big bong theory.** Water pipes, also called bongs, are used in the belief that the water cools and moistens the otherwise hot and dry smoke. Just hearing their bubbling sound can be reassuring to your ears that you are doing a favor for your lungs. The power of suggestion is strong, but chemical analysis of the smoke proves that while water pipes do cool the smoke they really do not moisten it.

Although smoke bubbles passing through the water gain no moisture, the water does trap some particulate matter (ash), some water-soluble toxins such as hydrogen cyanide and hydrocarbons, and some tar. Most smokers fill their water pipes with cold water. Cold water cools the smoke, yes. But research shows that hot water better traps the tar. So here's a hot tip! Fill your water pipe with hot water, not cold.

Studies conducted with cannabis found that water pipes filter out proportionately more cannabinoids than tar, more than anyone would have suspected. Thus to

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compensate for the lost cannabinoids, bong users end up smoking more and therefore inhaling more, not fewer, tars. As this cancels out any potential benefit of using a bong, better to ban the bong.

**6. Vaporizers don't go up in smoke.** So-called vaporizers do not create true vapor, but instead produce smolder, the semi-smoke that lingers from a snuffed out candle. The words smolder and smolderizer lack an appealing ring to them, so marketers coined the words vape and vaporizer. Cannabis burns and smokes at temperatures above 460 degrees F (238 degrees C), but volatilizes and smolders between 266 and 446 degrees F (130 to 230 degrees C). Vaporizers volatilize the herb, rather than burn it. While manufacturers promote their many vaporizers with much tripe and hype, vaping indeed is widely acknowledged to be less harmful than smoking.

In our new millennium, the latest model vaporizers offer features such as adjustable temperature controls, automatic shutoffs, and battery-operated portability. Depending upon the brand of vaporizer, analysis shows that compared to cannabis smoke, cannabis smolder delivers far less carbon monoxide and none of the tar or noxious gases such as benzene, toluene, and naphthalene. But there's a catch.

THC is the crucial cannabinoid that produces cannabis' psychoactive effects, but many models of vaporizers deliver low proportions of the available THC. Most models instead deliver high proportions of the available cannabinol (CBN) and cannabidiol (CBD), which provide many of cannabis' medicinal effects. Thus most vaporizers are more useful to medical marijuana patients who then can vape less, but less appropriate for recreational potheads who then must vape more.

Vaporizers still can make you cough, especially if you are a novice vaper. Nevertheless the right models potentially can spare your lungs. Much depends upon what brand of vaporizer you're using and what sort of relief you're seeking. While many cannabis users still voice a clear preference for the effects of smoke over smolder, advocates for vaporizers suggest that such diehard smokers simply have tried the wrong models. Among many variables, this much is certain. Neither smolder nor smoke benefits human lungs. So even the best (and most expensive) of vaporizers are not total panaceas.

**7. Seek purity.** If given the choice, go organic. Compared to a melon or a mango fertilized with chemicals, sprayed with pesticides, and preserved with fungicides, an organically-grown fruit should taste better, and usually does. Ditto for organically-grown cannabis. Chemical fertilizers such as ammonium nitrate, which in its isolated form is the active ingredient in homemade bombs, can truly blow your mind.

Be especially vigilant for pesticides. Cannabis is a costly crop to risk loss to insects, so some gardeners insure against losses with heavy doses of insecticides. That is as true for indoor cultivation as for outdoor. Is your cannabis on drugs? If you do not purchase yours at a state-licensed dispensary whose product is routinely analyzed for contaminants, conduct some crude drug testing at home. Crush a raw bud between your fingers. Its aroma should be pleasing and should stir your imagination with images of the verdant rainforests of Hawaii, not the petrochemical refineries of New Jersey. Still, the proof is in the puffing.

The varying aromas of the smoke from different strains is subtle, and smoke from any source tends to numb nasal passages. So don't expect to smell it while you're smoking it. Instead, trust your throat, lungs, and brain. If just a little puff causes you to cough or gives you a headache, don't blame the cannabis, blame the chemicals.

**8. Seek potency.** Coughing while smoking? Then you've just smoked too much. Coughing after smoking? Then you've been smoking too often. And what you've been smoking may be of low potency. To reduce lung irritation, seek high power flower which medicates you or elevates you with less huffing and puffing. Sift out twigs and seeds, and save low potency leaves for modes of delivery other than vaping or smoking. The more potent your smoke, the less you will take. Simple arithmetic.

The new math of medicinal marijuana has opened new horizons. Over decades, cultivators hybridized strains with higher levels of THC but unwittingly bred out the cannabidiol (CBD) and cannabinol (CBN). As the CBD and CBN provide relief of many medical ailments, their low potency accounts for mixed results in human trials. With

marijuana's medicalization, dispensaries now provide patients with access to cannabis with higher levels of CBD and CBN. Stay tuned as research rapidly advances regarding the ABC's of THC and CBD and CBN.

**9. Preserve potency.** To assure it retains its potency, you must properly store your herbal remedy or recreational therapy. If purchased illicitly, the herb probably came bundled in a plastic zipper-type food storage bag. Such bags are waterproof, but not airtight, else a sweet aroma would not seep out of the bag. If odor is leaking out, then air is leaking in.

Place that bag inside an oven bag, marketed for roasting meat. Such bags indeed are airtight. But bags do not protect the delicate herb from being crushed, which exposes it to oxidation and therefore loss of potency. To keep the bud whole, stash it inside a rigid airtight container such as a glass jar. Next, store the jar in a cool, dark place. Refrigerators are fine, freezers even better. Kept frozen, herbs retain their potency for years, as though frozen in time.

**10. Green Diet.** Cannabis is not the only green in town. Help yourself to some veggies. Include in your diet ample fresh fruits and raw vegetables rich in antioxidants that both prevent and reverse the cellular damage caused by free radicals released in smoke. From among fruits, berries are best. Among veggies, choose the brassicas such as broccoli, cabbage, cauliflower, collards and kale.

If you do not always eat a wholesome diet, then resort to nutritional supplements, though bitter pills to swallow. Two common combinations are especially helpful: a vitamin B-complex, and the ace vitamins A,C, and E. These are the skin vitamins, and the lungs are but skin turned outside-in.

An undervalued nutrient is water. Drink it straight, not diluted as a beverage. When you are fully hydrated, your respiratory tract stays moist and your mucus thin. And drink especially after smoking, when moisture in mouth and throat need to be replenished. A dry mouth and parched throat increase susceptibility to tooth decay, gum disease, and respiratory infections.

If water is not available, chew on a dark green leafy vegetable. A sprig of parsley, for instance, decorates a dinner plate, but its real function is to cleanse the palette. Its chlorophyll also freshens the breath. If you are outdoors, chew on a leaf or blade of grass.

## The Gateway Theory

And chew on this. The theory that cannabis is a gateway drug leading to addiction to cocaine and heroin has been resoundingly disproven, whereas in states still stuck in 20th century mentality the possession of cannabis still acts as a gateway to courtrooms and jail cells. The greatest harm of using cannabis lies in the threat of incarceration, not in any inherent health risks.

Smoking cannabis gets the nod when compared to smoking tobacco or drinking alcohol or popping pills. But smoking cannabis leaves much to be desired when compared to breathing fresh air. Not smoking is better than smoking. But if light up you will, then follow some precautions to assure your good health, and you also will lighten up.

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