



BEYOND BUDS

– MARIJUANA EXTRACTS –

Hash, Vaping, Dabbing, Edibles & Medicines



by Ed Rosenthal

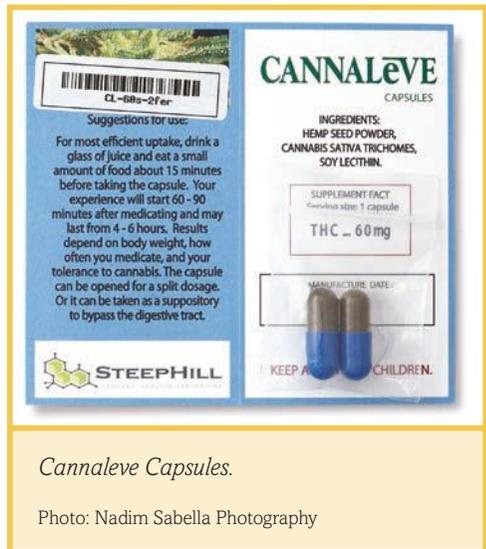
with David Downs

Chapter 10.

Capsules— Making and Using Canna Caps

We've all been in situations where it's just not cool to smoke. Maybe you've wondered if it were possible to take a marijuana pill. Popping a pill in your mouth with a gulp of water to enjoy the therapeutic and mind-enhancing effects of cannabis would sure be easier and more discreet than firing up a spleef. Turns out you can. Marijuana capsules, also called "maripills" or "canna caps," are very effective and quite easy to make. What's more, they will produce a longer-lasting and somewhat different high than smoking or vaping.

A pill and a pipe won't produce the same effects, even if they contain the same variety



Cannaleve Capsules.

Photo: Nadim Sabella Photography

and amount of marijuana. The digestive process creates somewhat different metabolites from inhaled marijuana, and those have different effects than the smoked form.

One difference is time: how long it takes to be effective and how long the high will last. Take a puff, and the effects are felt within seconds, letting you easily judge how high you're getting. Take a pill, and you won't know for a while. Anything that gets into your system through your stomach takes much longer to be felt, and that can make knowing how much you have on board hard to manage. After 15 or 20 minutes of not feeling much effect, it's easy to think you should just go ahead and pop another canna cap or eat another brownie. Then it starts to really hit you just a few minutes later, but by then you've got a lot more coming. For best results, wait at least an hour before upping the dose.

Just as taking a canna cap or edible takes longer to be felt than inhalation, the effects are also extended. The high from smoking a bowl may have mostly worn off after a couple of hours, but the buzz from a brownie or canna cap will just be getting going. Since digestion takes longer than absorbing through your lungs, that hour or more it takes for your stomach to process what you put in it is like an extended-release for THC and the other cannabinoids. That means that the effects will last at least twice as long, depending somewhat on how much you take.

Those longer-lasting effects make oral ingestion just the ticket for many medical marijuana patients who have trouble sleeping without it or need to go longer between doses for other reasons. Some people prefer the high they get from oral marijuana preparations, and those who use it for chronic pain management often say it works better that way. More of a body high and relaxation is how many describe it, but as with all things marijuana, much of the effect has to do with who is using it and what space they are in.

Cannabinated foods are not always predictable. Canna caps are a more consistent and convenient alternative. Marijuana capsules begin to take effect 30–90 minutes after being eaten, depending on whether you take them with food or on an empty stomach. With capsules, it is easier to monitor the exact amount of cannabis that is being ingested. Psychoactive effects typically last 4 to 8 hours, but the herb's medicinal effects infrequently continue for as long as 12 hours.

Because canna caps allow cannabis to be eaten without food, these capsules give people more choices. When taken on an empty stomach, the high comes on more quickly, and may be more potent, though some people report eating a light meal within an hour helps enhance the effects. When taken following a meal, assimilation is slower, and the effect is mellower but lasts longer. Medical users may find this increased control over effects beneficial.

CANNA CAPS VERSUS MARINOL

Marinol is the brand name given to dronabinol, which consists of synthetic delta-9 THC suspended in a sesame oil base. This is the only cannabis-based medicine currently legal and available by prescription. It's also very expensive.

Some patients experience good results when using Marinol but others find that it produces anxiety or makes them unpleasantly high because it is only the most psychoactive cannabinoid and it lacks cannabidiol (CBD), which counteracts the anxiety-inducing effects of THC.

More importantly for patients seeking the maximum benefit from cannabis, with Marinol you miss out on the “entourage effect” of marijuana’s other cannabinoids working together to increase their overall effectiveness. Research has revealed that the aromatic terpenes that give marijuana its distinctive odor make THC three to four times more effective than it is when taken alone. Those other cannabinoids don’t just help THC do a better job. They have therapeutic properties of their own, including relieving pain, inflammation, spasm, nausea, and anxiety.

Most modern cannabis contains mostly THC with negligible amounts of other cannabinoids. Some varieties contain CBD, cannabidiol, a nonpsychoactive cannabinoid that has therapeutic properties such as controlling inflammation and anxiety relief. Another cannabinoid, CBG, that is also nonpsychoactive but may have medical effects, is occasionally present.

Since dronabinol does not contain cannabinoids other than THC and does not include terpenes, it is less effective and is more likely to have uncomfortable side effects such as anxiety and paranoia.

Marinol does, of course, have one irrefutable upside—it has passed muster with the Food and Drug Administration and can be prescribed and possessed legally. As a standardized medicine, dosage is exact to a degree that homemade preparations are incapable of matching. Marinol is approved for treating nausea and vomiting resulting from cancer chemotherapy, and for loss of appetite and weight loss related to HIV infection.

Additional cannabis-derived medicines are available by prescription. GW Pharmaceuticals produces Sativex, a dose-controlled plant extract that is half THC, half CBD, in an alcohol-based tincture that is sprayed under the tongue. Sativex is available by prescription for MS and intractable cancer pain in Canada and 23 other countries.

In the meantime, the best option for getting full-spectrum cannabinoids in a discreet and easy-to-use capsule is to make them yourself from quality cannabis. The homemade canna caps discussed in this chapter are made from leaf, trim, or bud, and offer the complete range of therapeutic cannabinoids. Unlike standardized, dosage-controlled pills made by pharmaceutical companies, homemade marijuana capsules will vary in potency from batch to batch, so the dosage should be tested and adjusted each time new capsules are made.

Marijuana capsules can be made either with powdered cannabis or with an oil-based extract. In either case, heat is used to potentiate the THC. Once the material has been processed, it can be packed into gelatin capsules using a large syringe and a small, inexpensive capsule-filling device.

Gelatin capsules and capsule-filling machines are available at many health food stores or online. Capsule-filling machines are small (about the size of a brick) and inexpensive (under \$20). They simply hold the gelatin capsule in place, allowing many pills to be made at one time.

If you are a strict vegetarian, gelatin capsules may not be for you as they are made from cows. Vegetarian capsules made of starch are available, but they are inadvisable for this process, because they dissolve when exposed to oil. Ask a salesperson if the vegetarian capsules they offer can tolerate an oil-based filling before purchasing them for canna cap use.

Size #0 capsules are recommended because their small size is not too difficult to swallow. Size #0 can hold 325 milligrams of marijuana preparation. Dosage may vary between 1 and 5 capsules, depending on the potency of the material used. The largest size most people can tolerate is #00 size. The larger size makes preparing them easier, and both the capsules and machines are widely available from health food stores or online. This size has a capacity of 650 milligrams. Usually 1–2 pills at this size comprise a sufficient dose.

HOW TO MAKE CANNA CAPS

Canna caps can be made from leaf and trim only, bud only, or a leaf/bud combination. No matter what is used, it is necessary to process the plant material before filling capsules. There are three basic ways cannabis can be capsulized: as just dry powder, as powder mixed with an oil, or as an oil extract of the cannabis.

All three methods need the plant material to be heated a bit to “decarboxylate” it, a chemical process that changes the cannabinoids found in the plant—THCA and CBDA, which are nonpsychoactive—to the active form by releasing COOH from the molecule. That process happens naturally when you smoke or vaporize marijuana, but for preparations you swallow, it needs to be done separately.

Mild heat, about 100°F (38°C), also helps the cannabinoids bind to the oil, if that’s the method you’re using. Packing the capsules with a mixture of marijuana and oil makes it easier for the body to digest and utilize the herb. Whole plant material contains not only the bulbous THC-containing glands

but also the microscopic—and sharp—hairs on which they rest. Oil and heat soften these spiky hairs, making them less irritating to the stomach.

The cannabinoids and other essential oils that produce marijuana's effects are soluble in fats, oils, and alcohol. They are not soluble in water. Gelatin caps hold nonaqueous liquids such as oil and alcohol, but they dissolve when filled with water. Luckily, marijuana is mixed with these liquids, not water.

Some people find that, even after processing, they have trouble digesting pills that use leaf material. If this is the case, try using hash or kief. Both kief and hash contain much less vegetative matter. The tiny hairs from the vegetative matter are most likely the culprits in digestive complaints.

If that's a problem, just make your canna caps with the strained oil method described below.

Equipment and Ingredients

- Cooking oil (coconut, olive, or canola)
- Plant material (bud, leaf, trim, or a combination)
- Food processor or flour mill (when leaf/trim is used)
- Clean or unused coffee grinder
- Flour sifter (optional)
- Crockpot, double boiler, or small saucepan
- Cookie sheet
- Candy thermometer (optional)
- Gelatin capsules
- Capsule-filling machine
- Tamping tool if using vegetative material (machine may come with one; otherwise, the head of a nail works well)
- Large syringe (if using oil only)
- Paper cone coffee filter (if using oil only)

Processing Leaf and Bud for Capsules

Clean the leaf, trim, or cured bud carefully before starting the capsule-making process. Make sure there are no small stems in your material. Kief and hash are already well suited to capsule making, though caution should be used with dosage, as the end product may be very potent.

The material should be very dry before beginning this process. Spread the material on a cookie sheet and place it in an oven at 100°F (38°C) for an hour to remove the last remnants of moisture and decarboxylate it.

MARIJUANA PILLS

Ask Ed

Ed:

Is there a way to make marijuana pills or capsules? I reek after smoking and I don't like to cook the stuff. When I consume marijuana I have a deeper high. Another reason why I want to consume rather than smoke it is to give my lungs a well-needed rest. Do you have any recipes or ideas?

*Budd,
Internet*

Budd:

My late friend Tom flowers used to use maricaps for his severe arthritis. He bought size #0 capsules and a filler holder that holds them upright. He used high-grade trim that was well dried and powdered fine in a coffee grinder. The powder was mixed with a few lecithin granules and enough olive oil to make a thick paste. Then the caps were filled and kept in the refrigerator or freezer until used.

Each cap held about a third of a gram of high-quality trim. Tom used them for relief of arthritic pain. Three or four caps on an empty stomach were quite potent. The advantage of caps is that you don't have to eat to use them.

The lecithin is added to help emulsify the THC. It's quite possible that a glass of milk (soy is okay), laden with emulsifiers, might help with the high.

Chop the material into a fine powder or flour using a coffee grinder or blender. This processing generates clouds of cannabis dust that contain many glands that can be retained by letting the dust settle before you open the top.

If the material contains a lot of leaf, follow the coffee-grinding step with an additional pass through a flour sifter. This last step makes the material finer and more consistent by separating out any large pieces.

Don't skimp on material. It is always better to have more marijuana powder than you plan to use, so if too much oil is added accidentally, a little more powder can also be added to reach the right consistency. Extra capsule powder can be stored in the freezer. The refrigerator is also adequate. Cold, dark, and oxygen-free conditions preserve marijuana's potency and protect it against molds or bacteria.

Making the Filling

Pure Canna Oil Caps

Some of the best canna caps are made with strained coconut oil cannabis preparations. Coconut oil works well because it is a soft solid at room temperature, is readily available in pure organic forms from health food stores, and is almost 100% nonhydrogenated fat, so it's healthful in its own right. Olive oil is another popular medium because it is healthful and stable at room temperature.

To heat the oil and cannabis, a double boiler or Crockpot works well and helps ensure you don't overheat it. As with other marijuana preparations, keeping heat low is key to preserving the cannabinoids that will vaporize and escape when temperatures get above 280°F (138°C).

Calculating Quantities

Capsule machines may make 24, 50, or 100 capsules at a time. Size #0 capsules hold 0.3 grams, and #00 capsules hold 0.6 grams. The amount it takes to fill 50 capsules is 15 grams (about a half-ounce) for size #0, and 30 grams (about 1 ounce) for #00.

Place the desired amount of oil in a double boiler or Crockpot. A small frying pan or saucepan will also work if care is taken to keep the temperature at 100°F (38°C). (That's where the candy thermometer comes in.) Once the oil has warmed, add the ground marijuana, stirring to coat the material thoroughly.

If you are straining out the plant material to make oil-only capsules, the longer you let the mixture heat, the better. It takes a while for all of the cannabinoids and plant oils to bind to the coconut oil. Half an hour is the minimum, an hour captures almost all the THC, and six hours is great for the obsessive. Using a Crockpot or other slow cooker saves you constantly monitoring the heat. The oil-to-powder ratio varies between 3–8 tablespoons per ounce because leaf and bud absorb oil in different quantities. Use just enough oil to make the material stick together in a dry paste-like consistency, particularly if you are using an oil other than coconut that is fluid at room temperature. Too much oil makes filling the capsules more difficult. More powder should be added if the mixture seems too oily.

The mixture should keep the same dark green color it started with. If the material turns brown, it has burned, which is unfortunate. This material has lost most of its value. You should start over rather than continuing with this material.

If you are using a saucepan or skillet and want capsules that contain all the plant material, heat the oil using a candy thermometer to monitor the

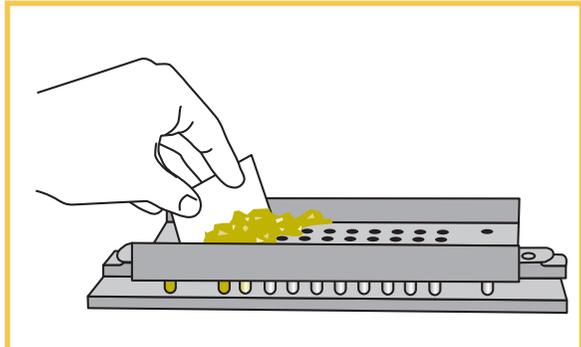
exact temperature. Once the temperature reaches 100°F (38°C), remove the pan from the stove and add the plant material to reach the proper consistency. The mixture can be encapsulated when it has cooled to room temperature (below 90°F [32°C]).

Filling the Capsules

Capsule machines have a platform with holes. The bottom of the capsule shells fit into this platform. The process for filling the capsules is only slightly different for using just the oil or the full plant-oil mix.

For oil-only capsules, heat the mix until it is liquid rather than viscous, fill a large syringe or baster with the oil, then inject it into the capsules one by one. Don't let the mixture get too cool before filling the capsules, or getting it into them will be difficult if not impossible. If it does harden, just gently reheat it to the point of turning to liquid.

For capsules that use the full oil-plant mix, use a spreading card to distribute the oil mixture over the capsule-filling device. Tamp the mixture down into the capsules. Repeat the process until they are completely filled. If your capsule-making kit did not come with a tamper, sterilize a nail with the right-sized head and use it.



A platform of holes being filled in a capsule machine. Capsule shells fit into the platform, and the oil mixture is pushed over it and tamped down until completely filled.

Storage

Keep canna caps in a sealed, dark glass bottle or jar. They have a shelf life of only a few weeks at room temperature, but in the refrigerator, they keep for months. They can also be stored long term in a freezer.

Capsule-Making Tips

- Gelatin caps are derived from animal products. Vegetarian capsules can be used, but some types dissolve when oil is used in the filling. Before buying vegetarian capsules, ask the salesperson if they can be filled with an oil-based mixture.
- It is a good idea to process a little extra powdered material. Then the material-to-oil ratio can be adjusted if too much oil is accidentally mixed in.
- When heating plant material for the capsules, heat it in a double boiler rather than on a stove top to assure keeping a low temperature. THC starts to vaporize at just over 280°F (138°C). Some terpenes are volatile at 70°F (21°C). If using a burner set it at a very low temperature to avoid ruining the plant material's psychoactive and therapeutic properties. A Crockpot or other slow cooker set on low works well.
- Bud absorbs more oil than leaf material. The amount of oil needed may depend on the ratio of leaf to bud, the type of oil used, and how dry the plant material is.
- Marijuana varieties differ in potency and cannabinoid content. Different strains produce different highs and medicinal qualities. Likewise, using different ratios of trim, bud, leaf, or kief affects potency. Reassess dosage when a new combination of plant material is used.

USING KIEF

Kief offers a cleaner alternative to powdered leaf or bud especially for those who find plant material hard to digest. Kief dissolves easily when mixed in warm oil. It does not have a dark green color when mixed and heated because it doesn't contain plant matter. Kief is more concentrated than bud so a kief-packed pill will be more potent. Try size #0 capsules when using kief because the dosing size is smaller.

DOSAGE

As with all marijuana products, the right dosage depends on the potency of the herb, how you prepare it, and the person taking it. Dosage varies from person

to person and from batch to batch, but it usually ranges between one to five size #0 capsules or one to two #00 capsules.

When capsules are made using only powdered bud, they are more potent than a bud/leaf or leaf/trim mixture. Likewise, kief, which is a concentrated form of marijuana, has a higher potency, and the dosage should be lowered.

Canna caps can be taken at any time, but just like marijuana foods, results depend in part on whether they are eaten on an empty or full stomach. When taken on an empty stomach, the onset of effects is more rapid, and the high may be more intense. Eating food right after the pills are taken may mitigate the potency and delivery, though some say a light meal within an hour enhances the high. If canna caps are taken after a meal, the effects will come on more slowly and the high may be milder. As always, effects will also differ from person to person, so start with small amounts and give it at least 90 minutes to take effect.