

MARIJUANA

**HEALTH
EFFECTS**



A D.I.N. PUBLICATION BY SARA MACINTOSH

FACT ATTACK

A problem with marijuana is that the "facts" keep changing.

Fifty years ago, the first "fact" anybody thought they knew about pot was that it was the dreaded "assassin of youth," a one-way ticket to crime, madness, and despair.

Thirty years ago, that started to change. For lots of people, it seemed obvious that pot was a harmless "re-

creational" drug—one that, if not actually *good* for you, at least didn't do any *real* harm, like such legal drugs as alcohol and tobacco.

Ten years ago, the "facts" started turning again. With the changing of the political guard in Washington in the early 1980's came an about-face in marijuana policy across the country, and a whole new set of "facts" were produced to justify a new holy war against a born-

again "assassin of youth."

Today, the "facts" about marijuana are changing again. Except this time, it looks like they may just be changing for good.

Because our knowledge about marijuana today is based more on fact than fiction, and rests on science rather than sensationalism.

And that's good news for us all. Because the new "facts" about marijuana are probably closer to the real facts than we've ever been before.

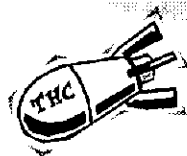
■ What's different about marijuana today?

A lot. But there's also a lot that's stayed the same.

Because even though people have used the stalks, stems, and flowering tops of the hemp plant, *Cannabis sativa*, in medicine and manufacturing for at least 5,000 years, marijuana is a lot better-known today as a drug. Nothing new about that.



Reefer madness. Pot has always attracted attention. It just didn't attract serious scrutiny until recently.



THC, the main mind-altering ingredient in pot, is tricky: It breaks down into at least 80 different by-products before it's eliminated.

In fact, pot's been the most widely-used illegal drug in America throughout this century. Today, an estimated 70 million Americans have tried it, according to a 1994 national survey, and about 5.1 million use it on at least a weekly basis.

And while those rates are down sharply from the peak years of the late 1970's—when 28 percent of all Americans under age 25 were regular smokers—they *do* reveal an upturn in use during the past year or so and they also underscore marijuana's continued drawing power.

What users are drawn *to* is a swirl of sensation and a fog of intoxication produced by the drug.

When smoked, marijuana triggers a mild euphoria and a heightened sensitivity to sights and sounds and other bodily sensations, along with a variety of other perceptual distortions that are usually experienced as pleasant—but not always, and not by all users.

Immediate effects usually peak within an hour and fade in 2-3 hours. After-effects can include a slight "hang-over" marked by slowed reaction time and impaired concentration.

■ How does marijuana work in the body?

That's a good question—but it's not an easy one to answer. Because the simple fact is that marijuana is one complicated drug.

For starters, it's not a single molecule, like alcohol or cocaine, but a jumble of more than 420 *different* components, 61 of which (called *cannabinoids*) occur nowhere else in nature, except in the marijuana plant.

Cannabinoids are complex—*so* complex, in fact, that the body has to break them down in stages. This results in

the release of breakdown products (called *metabolites*) in the body.

The main psychoactive (or mind-altering) ingredient in pot, *delta-9 tetrahydrocannabinol* (AKA THC), is particularly tricky: It breaks down into at least 80 different by-products before it's eliminated. And along the way, its metabolites keep moving—and keep on zapping body systems.

The process starts almost immediately, when THC enters the bloodstream and zeroes in on high-fat parts of the body, including the brain, sex glands, and heart.

Once there, it takes its own sweet time in leaving. Unlike many drugs, which are excreted from the body within hours, pot's breakdown products stick around for 3-5 days—even weeks, in heavy users.

And it's this build-up of by-products, and the length of time they remain in the body that causes the most concern about possible long-term risks.

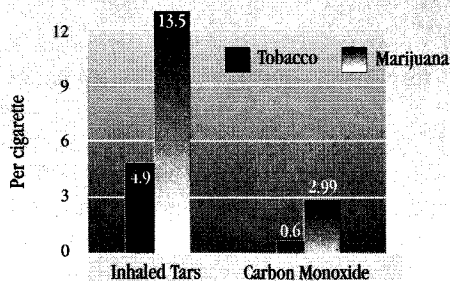
■ What health risks are linked to pot?

We'll start with the heart, because pot can get the heart pumping faster than a furious fling on the dance floor.

In fact, rapid heartbeat—which, for some users, can speed up by as much as 50 percent—is one of the few universal physical effects of smoking pot.

POT'S HOT SPOTS

Source: Tashkin 1988, 1990



Double trouble. Marijuana packs more of a tar and carbon monoxide punch than tobacco, according to recent studies.

And even though the increase only lasts minutes (and isn't a threat to most people), it adds unneeded strain for users with heart disorders or high blood pressure.

Probably a bigger threat to more users is the risk of irritation to the lungs and respiratory tract, because users inhale pot so deeply and hold it in the lungs for so long.

And while the cannabis-cancer link is far from proven, the drug *does* contain higher levels of cancer-causing chemicals than tobacco, so it's not exactly farfetched, either. (See "Pot's Hot Spots" below.)

■ Are any other body systems affected?

It sure looks that way. Take the endocrine system, for example. It produces hormones, the internal chemicals that control how and when our bodies develop.

Here's what marijuana does there:

- Produces a short-term drop in the hormones that direct growth and development.

- Slows sperm production in males, resulting in fewer normal sperm cells.

- Tinkers with the balance of hormones that control the menstrual cycles of girls and women.

In adults, hormonal changes seem temporary. But researchers suspect that young people could be at special risk and warn that they should avoid pot to prevent possible developmental problems.

■ What about pot and the brain?

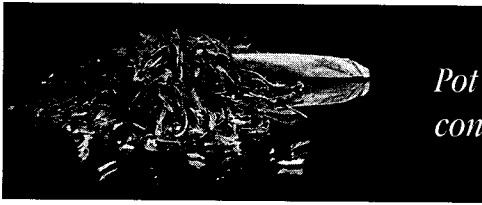
That's the trickiest question of all.

Because no one's sure of how, exactly, the brain works in the first place. And we know even less about how it works with a bongload of marijuana in it. Still, researchers think they're closer to real answers than ever before.



The Seed Bank

Flower power. THC is concentrated in the flowering tops of *Cannabis sativa*.



Pot tilts the balance of chemicals in the brain that control mood, energy, appetite, and concentration.

And what they're finally figuring out is that pot alters the way thoughts and feelings are processed in the brain in a number of ways. Consider:

- ☛ Pot tilts the balance of chemicals in the brain that control mood, energy, appetite, and concentration.
- ☛ It disrupts learning and memory formation, causing forgetfulness and problems in concentrating.
- ☛ Pot also seems to reduce brain cell sensitivity. Some researchers think that chronic use could eventually damage connections between nerve cells.

Uncovering all of pot's effects in the brain is probably years away. But this much is known right now: Heavy users in general and longtime smokers in particular are more likely to suffer ongoing problems than occasional smokers and nonsmokers.

And *that* should give even die-hard pot aficionados something else to stop and think about.

GETTING OFF GETTING HIGH

For most people, getting off marijuana isn't a huge deal. All they need to do is stop—and stay stopped. Quitting isn't fun, but it seldom requires much more than a little time and a lot of willpower.

For others, it gets more complicated. That's because some people let pot become a regular part of their lives, like coffee in the morning or brushing their teeth at night.

For them, quitting is just the first step in a longer process of rebalancing their heads and hearts—and finding alternatives to fill the holes that giving up pot leaves behind. Places to start:

- ☛ **Exercise.** Any strenuous activity will boost your spirits and clear your mind. Running or cycling are two that turn on the same feel-good brain chemicals that pot does—without the risks.
- ☛ **Diet.** A junk-food-free diet (fewer fats, more green, and less red) can help turn down the blues that can come with giving up pot. Taking a break from caffeine and sugar can help, too.
- ☛ **Relaxation.** Take it easy. Turn on to an activity or a skill that you may have let slide for a while. Now's as good a time as any to experiment with who you're going to be from here on out.

If you think you need help, get it. And if you've thought about it before, do it **now**. It's the only time there ever is for getting your life back together, and it's scheduled to begin again any second now. ☛

☛ How marijuana cause birth defects?

Probably not, but definitely maybe.

The fact is that impending motherhood and drugs of any kind don't go together at all.

And with marijuana, there is evidence that use during pregnancy can cause unnecessary problems for a developing fetus, even raising levels of miscarriage and stillbirth.

That's because marijuana metabolites (remember *them*?) are able to cross the placenta, where they unleash a set of poorly-understood effects in developing body systems.

Results can include lowered birth weight, nervous system problems, and delayed learning.

And for most moms-to-be, risks like those are too real to ignore.



J. Alford/Focus

High spirits. Beat the blues quitting can cause by getting out—and getting healthy.

FINAL FACTS

We still have a long way to go if we're ever going to round up all the facts about marijuana.

For that matter, we'll probably never have *all* the answers to all the possible questions about all of pot's effects on the body and brain.

Still, you don't need to know everything to know that certain people (particularly young people, pregnant women, and heavy users) face potentially serious health risks from the drug.

And each one is a risk that easily can be avoided.

And while the dangers of occasional use are less certain, a fact we need to be clear about is this: The *only* foolproof way to safeguard your health is to pass on pot altogether.

Because in spite of all the facts, old and new, we've learned over the years, one fact that hasn't changed or never will is that marijuana is a drug and a complex one, at that.

And like every other drug that's ever been used, it can cause real problems for real people.

And that's another fact about marijuana that's likely to always be true. Think about it. ■

This is one in a series of publications on substance abuse and health topics published by Do It Now Foundation. Please write or call for a complete list of available titles.

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