Due to the serious depressant action of narcotics in general and heroin in particular, a heroin OD is a major medical emergency and should be treated as such.

Old-line junkie quick-fix remedies (such as injecting an OD victim with milk or salt water) are not reliable and should not be used in place of medical treatment.

A new breed of narcotic *antagonists* (which fit endorphin locks even better than heroin, and thus displace heroin from its binding sites) are available now, and each can reverse the effects of an OD almost instantly. Such drugs, including naloxone and naltrexone, are only available through legitimate medical channels.

Preparation 'H': *The strongest pain reliever you can get with or without a prescription.*

That's the reason it's so important to get help as quickly as possible in the event of an overdose.

Because all the wonder drugs in the world aren't going to help if you don't get the victim to the hospital in time.

What Next...

Any number of different approaches and programs are available to help addicts retire their junk habits, including client-oriented outpatient clinics and inpatient therapeutic communities.

Drug-oriented programs have traditionally dispensed methadone, a synthetic heroin-like drug that replaces the craving for junk, to either *detoxify* or *maintain* addicts.

In detox, an addict is gradually weaned off heroin by progressively decreasing doses of methadone. In maintenance programs, long-term users are supplied with daily doses of methadone, with no real attempt made to withdraw them from the drug.

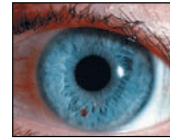
Since 2003, a new drug, buprenorphine (combined with naloxone and sold under the tradename Suboxone®), has also been used to treat addicts, both to relieve craving and withdrawal and to block the effects of illicit opiate use.

Maintenance is obviously one approach to solving the problem, but if experience has taught us nothing else about drugs, it's that "curing" drug addiction with more drugs is often more claim than cure.

Which Way...

Okay, so which way do you go from here? That depends, as the caterpillar told Alice when she turned up in her own private Wonderland, on where you really want to go.

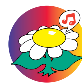
If heroin is a problem for you, probably the best advice is to just give it up. The unpredictability of the heroin that's available on the street these days makes staying alive a tricky proposition, at best. When you add in the risk of exposure to the AIDS virus that comes with sharing needles and syringes, you may just come to the realization that getting straight is the smartest thing you can possibly do.



If you're not a heroin user, but have thought about giving it a shot (or a sniff or a chase of the dragon's tail), think again.

And remember, it isn't called junk for nothing. That's what it's called because that's what it makes out of people's lives. ■

This is one in a series of publications on drugs, behavior, and health published by Do It Now Foundation. Please call or write for a list of current titles, or visit our web site at **www.doitnow.org**.



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■ a do it now foundation publication by jim parker

Junk is a cellular equation that teaches the user facts of general validity. I have learned a great deal from using junk: I have seen life measured out in eye-droppers of morphine solution. I experienced the agonizing deprivation of junk sickness, and the pleasure of relief when junk-thirsty cells drank from the needle....I have learned the cellular stoicism that junk teaches the user. I have seen a cell full of sick junkies silent and immobile in a separate misery. They knew the pointlessness of complaining or moving. They knew that basically no one can help anyone else. There is no key, no secret someone else has that he can give you.

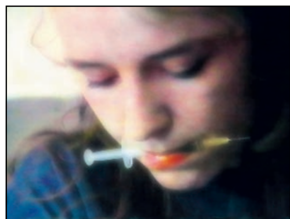
I have learned the junk equation. Junk is not...a means to increased enjoyment of life. Junk is not a kick. It is a way of life.

— William S. Burroughs, **Junkie**

▶ Who...

The "way of life" Burroughs was talking about is more tightly tied to junk, or heroin, than any similar lifestyle is linked to any other drug.

Because heroin isn't just a drug to users; it's an abiding personal passion and an all-consuming concern, a soothing balm of oblivion to calm the dull ache of existence.



Fixed focus: *Junkies trade the ambiguities and achievements of a straight life for a single moment of truth: fixing up.*

It's the reason some people get up in the morning and the reason they fall asleep at night.

It's the first thought they think of when they realize they're awake, alive, or alone. It's an identity, vocation, and pastime, a lover, master, and friend. In fact, heroin is just about everything to every addict, all the time. Everything, that is, except legal, safe, and free.

So what is heroin and why does it have the total grip it has over so many people?

That's a good question. But it's not an easy one to answer.

▶ What, When...

The drug heroin is a semisynthetic narcotic that's been around for a long time.

First synthesized in 1898 in the German labs of the Bayer Company, heroin (or *diacetylmorphine)* was the brainchild of Heinrich Dreser, the same chemist who'd distinguished himself a decade earlier by developing Bayer's other popular new painkiller, aspirin.

When heroin first hit the market, it was prescribed as a pain reliever and treatment for a range of other ailments, including bronchitis, emphysema, asthma, and even tuberculosis, due to its ability to really *turn off* a cough.

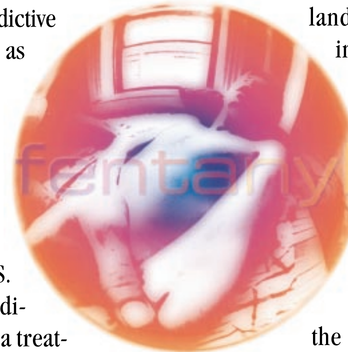
'The Problem Has Been Solved.' *Heroin was great medicine for a cough, except for one problem…*

In its earliest years, the drug was also touted as a cure for morphine addiction.

It also "cured" a range of other addictions, from opium addiction to alcoholism, but only if you consider it a "cure" when addicts end up strung out on a drug *way* more potent than the drug they were addicted to in the first place.

And if you accept that definition, heroin *is* a surefire cure for morphinism and alcoholism and just about every other -ism you can think of—in the same way that death is a cure for chicken-pox and laryngitis is a cure for stuttering.

Still, most of the medical community requires a higher level of proof than *that,* and as time went by and heroin began to be recognized as the super-addictive drug that it is, it gradually fell from favor as an opiate "cure."



Eventually, it was even withdrawn as a medicine altogether (at least in the United States) due to legislation that grew out of the perceived risks—addiction, most notably—associated with the drug.

Today, heroin is recognized by the U.S. government as having *no* legitimate medical uses, although it's still prescribed as a treatment for pain in Great Britain and a number of other countries.

Heroin is just about everything to every addict, all the time. Everything, that is, except legal, safe, and free.

As a result of the federal ban, all heroin available in the United States is illicitly made and distributed, which poses a double threat—in the form of both questionable quality and unknown contaminants—that can seriously affect the health and lives of users.

And street heroin does just that, 24/7/365.

▶ Where...

Heroin is the end product in an intricate chain of manufacture that spans continents and involves dozens of separate operations and uncounted greedy middlemen.

The drug is derived from the opium poppy, which is mainly grown in three areas of the world: Southwest Asia (in the so-called "Golden Crescent" of Afghanistan, Pakistan, and Iran), Southeast Asia (in the "Golden Triangle" states of Laos, Thailand, and Burma), and increasingly (starting in the late-'90s and continuing into the present), in Mexico and Colombia, as Latin American drug cartels diversify from cocaine to higher-profit heroin.

Flower power. *Heroin starts out as a milky resin drawn from the seed pods of the opium poppy.*

After a simple sequence of steps (in which the juices of opium poppies are dried, filtered into a morphine base, then synthesized into heroin), the drug finds its way into this country, where [more ▶]

it winds its way into the hearts, minds, and veins of an estimated million-and-a-half U.S. addicts and weekend "chippers," as "Mexican mud," "China white," or "black tar."

And even though color is a standard means of identifying heroin, color itself is a pretty unreliable indicator of anything—except for the cuts and extenders that go into any particular batch of the drug.

Because heroin, which is gray in solid form, becomes sparkly white or coffee brown as a result of the various *junk* (suppose that's where the nickname came from?) that dealers drop in to beef up profits.

Common heroin cuts include dextrose, talcum powder, mannitol, quinine, cocoa, powdered soap, and brown sugar.

When it gets to America it's usually sold on the street in twenty-five or fifty dollar bags, spoons, or balloons under any number of nicknames and aliases, including H, horse, stuff, shit, skag, and smack.

But by whatever name and in whichever package, heroin has definitely regained its title as king of the street drugs in recent years. Potency has soared and prices have dropped—partly due to the influx of Colombian and Mexican cartels into the heroin marketplace and the price wars their entry has inspired.

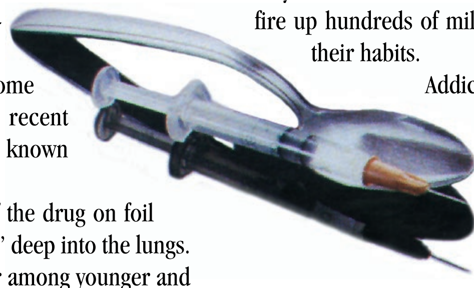
And the collective intelligence, guile, and plain-old street smarts of its followers say it stays that way—at least for a while longer.

How...

Heroin can be used in a number of ways, depending on user preference and the quality of the drug.

Inhalation, or "snorting," is the most basic way of getting the drug from "out there" to "in here," although it tends to be favored only by occasional or novice users, since the bitter, unpleasant taste of heroin becomes all the more distasteful when slowly draining from the nose to the mouth and throat.

The most common way of using heroin is through injection—either subcutaneously ("skin-popping") or intravenously ("mainlining"). The effects of mainlining are more immediate and more pronounced than other means of using the drug, as are the dangers it poses to users—in the form of infections, abscesses, and other injection-related problems, as well as the increased risk of needle-borne HIV infection.



Another way of using heroin that's become increasingly popular—trendy, even—in recent years is smoking, in a practice sometimes known as "chasing the dragon."

Here, a user burns a small amount of the drug on foil and "chases" a fine spiral smoke "dragon" deep into the lungs. Chasing the dragon is particularly popular among younger and more upscale users of the drug, and those with an aversion to needles and a healthy fear of AIDS (but not of heroin).

And although a lot of dragon-chasers incorrectly guess that smoking is somehow less addictive than injection, it isn't—since higher quality dope is typically smoked, the percentage of actual drug that reaches the bloodstream is roughly the same.

It's the intense rush of pleasure that brings users back (and back and back) to heroin, until they nearly forget there was a time and a way without the drug. But there was and there is.

Regardless of how it's administered, effects of heroin are almost immediate and last from 3-4 hours.

They typically begin with a mild-to-intense nausea. (Vomiting is common, but as at least one user has remarked: "You don't mind vomiting behind smack.") That gives way to a giant, rolling wave of euphoria which is often compared to orgasm.

Smack attack. New more-potent heroin is creating a new batch of U.S. users.

It's this intense rush of pleasure that brings users back (and back and back) to heroin, until they nearly forget there was a time and a way without the drug. But there was and there is.

And when they're hooked, many can't tell you whether they keep shooting to feel the pleasure or to avoid the pain that comes with not getting a fix every few hours, or if somehow, the distinction between the two has gotten so blurred that they can't tell any more where one begins and the other ends.

How Much...

The amount of heroin a user uses is linked to a number of key variables, particularly the purity of the heroin and the duration of the habit.

The length of time a person's been using is important because *tolerance* to the drug is largely a function of time. Tolerance refers to the need for users to continually increase their dosage in order to produce similar effects.

Tolerance to heroin is hard and fast; while first-time users may need as little as 2-5 mg. to get high, long-term addicts may fire up hundreds of milligrams a day just to take the edge off their habits.

Addiction is another serious danger associated with heroin use and one that follows inevitably from regular use of increasing amounts of the drug.

And while addiction to heroin is physiological—involving the central nervous system and other body systems affected by the drug—it also involves a strong psychological component, which can continue to make life difficult for an ex-user months or years after the physical craving for the drug has gone.

Why...

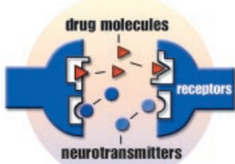
Precisely why heroin and other narcotics work the way they do—and create addiction the way they do—has fascinated researchers for decades.

For years, the best medical wisdom of the day just supposed that the drugs did *something* to a person—what, exactly, wasn't clear—and that abusers suffered from "character disorders" that somehow predestined their addictions.

And if that theory didn't always fit, others guessed that addicts might even *inherit* the tendency towards addictions, the way that some people inherit red hair or brown eyes or freckles. But the longer that researchers looked, the less it looked like these early theories were true.

Then, in 1975, researchers in Scotland and American made a discovery that overturned the way we look at drugs, the body, and the brain, when they found biological circuits in the brain built around chemical transmitters and receptors virtually identical to heroin and other narcotics.

Dubbed *enkephalins* and *endorphins* by researchers ("enkephalin" is a Greek term for "in the head" and "endorphin" is a contraction of the words *endogenous*, or internal, and *morphine*), the discovery also changed our ideas about addiction in general, and heroin in particular.



Brain basics: Drug molecules act like tiny neurochemical "keys" into the brain's pleasure-pain "locks."

In short, the reason that heroin works in the body is because it so closely resembles bits of protein in the brain and central nervous system that plug into internal receptors, the biochemical triggers that help regulate pain, pleasure, and emotion, and which otherwise produce effects identical to narcotics.

At this cellular level, opiate-drug molecules are like perfectly shaped "keys" to a system of internal "locks" that activate the endorphin system. And with endorphins, when the key fits, the body turns *itself* on.

What endorphin research may mean in the future is still unclear, but hopefully, a greater understanding of how the brain's pleasure-reward system works will lead to painkillers without the addictive properties of heroin, morphine, or codeine.

And when *that* happens, development of a chemical to "turn off" the craving for heroin and "turn on" positive feelings in its place might not be that far behind.

Why Not: Addiction...

All the talk about tolerance and endorphins and withdrawal has a point in human terms and it's that people who get strung out on junk get sick if it's unavailable—or if *they're* unavailable because they're in jail or some other place where it's difficult or impossible to get a fix.

And when the drug is unavailable to the user, or vice versa, bad things start to happen in a process called *withdrawal.*

Withdrawal refers to the changes the body puts itself through to reset its equilibrium after a period of heroin abuse. It can begin as early as four hours after a fix, although many users report no ill effects for eight hours or so.

As we pointed out earlier, the degree of difficulty involved in withdrawing from smack really depends on the quality and dosage of the drug and the duration of the habit.

If a person uses poor-quality heroin for a short time, he or she has a fairly mild habit, but a habit nonetheless. With purer heroin, expect a habit that will be tougher to kick.

There are a couple of ways to kick a heroin habit—none of them fun or pretty, but none truly dangerous, either.

Kicking takes about a week (at least the *physical* part of kicking takes about a week), with peak discomfort occurring at 48-72 hours.

Symptoms include dilated pupils, irritability, insomnia, and elevated blood pressure and pulse rate, in addition to symptoms that are similar to those of a mild case of the flu: runny nose, weakness, diarrhea, hot and cold flashes, sweating, abdominal cramps, and nausea and vomiting.

The skin takes on the clammy feel and the bumpy texture of a plucked turkey—a situation that is so pronounced it long ago gave rise to the term "cold turkey" in describing the process of a sudden, complete withdrawal from narcotics.

In addition, involuntary muscle twitches cause a spastic jerky motion in the legs and feet, which probably explains the origin of the phrase "kicking the habit."

As we mentioned earlier, physical symptoms begin to abate following the second or third day of withdrawal, but the psychological symptoms and the huge empty feeling in the gut that a junk habit leaves can last for years.

In fact, learning to handle recurrent flashes of junk-hunger is something that a good many ex-junkies get to handle for the rest of their lives. But considering the alternative, most think it's not a bad trade-off.

Why Not, Part 2: Overdose...

One of the other serious risks of heroin is the danger of overdose, a risk made all the more real—and that much more frequent—as a result of the wide fluctuations in quality that plague the street heroin market.

Example: Typical purity of U.S. heroin a decade ago averaged less than 10 percent, but today potency's up—and in some cases and places, *way* up.

Variations in potency can be extreme, too. In fact, the purity of street heroin can range all the way from zero on the low end to 90-plus percent on the other.

Still, the gap between an intoxicating dose and an overdose can be so small that OD's sometimes result from slight changes (usually due, ironically, to *increases* in quality) in the street market.

For this reason, most experienced users exercise caution when using a different "brand" of heroin—or junk obtained from a new or unfamiliar source.

Symptoms of a heroin OD or other narcotic overdose are both similar to and different from other drug overdose emergencies.

While a heroin OD involves the same respiratory depression (from slow to near-nonexistent breathing) and coma as any other depressant drug OD, one tip-off to a narcotics overdose is a constriction of the pupils of the eyes to near-pinpoint size. [more ▸]

Bottom Lines: Even More Reasons Why Not...

Although heroin usually causes little or no tissue damage to the body (aside from injury at the site of the injection), there are a lot of reasons why experimenting with heroin isn't a safe bet—or a great idea. Here are just a couple:

- **Variability in the quality of street heroin can range from zero to 90 percent, greatly raising the risk of accidental overdose and death.**
- **Dangers linked to shooting heroin involve the same risk to the brain, lungs, liver, and eyes associated with shooting other drugs. And sharing needles is one of the primary routes for the spread of AIDS.**
- **Addiction—the painful process of physical and psychological dependence on the drug—can begin in a relatively short time, especially when higher-quality heroin is being used.**
- **Heroin's potent pain-relieving properties may actually conceal symptoms of real physical illness or such diseases as pneumonia, and delay treatment.**