

2015 Drug Facts Chat Day

The following questions were asked by Howard County teens during the 2015 Drug Facts Chat Day. Answers were provided by National Institute on Drug Abuse (NIDA) scientific experts.

Q: What are the main effects of weed?

A: Eric Wargo

Weed causes disorientation, altered sense of time, and for some people relaxation; for other people it causes anxiety and paranoia.

Q: What does it mean to get "high"?

A: Joseph Frascella

Getting high is the effect that drugs have on one's brain. Drugs affect the brain's reward pathway. In the beginning, this can make people feel good, but after long-term use, people typically no longer get the same high.

Q: What can steroids do to your organs?

A: Nancy Pilotte

Steroids can have a lot of effects, but first you must know that your own body produces all the steroids it needs...and it needs them to regulate your growth, and are critical for reproductive function. People who use large quantities of steroids (often to help build muscle or control weight) risk heart disease, liver damage (even in young people), and may stop growing tall earlier than you should. It also can cause aggression, and if you are a female who is using anabolic (androgenic) steroids, your voice may deepen permanently, grow facial hair, and develop male-pattern baldness. Oh, and by the way, exercise has been shown to build muscle better than steroids...

Q: Should weed be legalized in the state of Maryland?

A: Joni Rutter

Legalization of marijuana for adult recreational use and for medicinal purposes is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Q: Why is weed illegal?

A: Eric Wargo

That's a big question. There are lots of historical reasons--it was made illegal during a period when people were very afraid of the effects of drugs on society. Obviously lots of people don't think it should still be illegal, but it does have lots of harms--it's not a completely safe drug, especially for young people--so there are valid arguments on both sides of the issue. It will be up to voters and lawmakers to decide if it stays illegal. Glad you are thinking about this!

Q: Are drugs worth it?

A: David Shurtleff

Good question. I would say the risk and possible complications of using drugs of abuse are far greater than the benefit. Problem is when you do use a drug of abuse it "hijacks" your brain's "pleasure" and "reward" center. So in the short run you feel good- or if you're depressed for example you feel better. But, unfortunately over time you can become addicted to the drug which interferes with life in a big way!! Not to mention, to get the same "high" you need to take more of the drug which can lead to over does and death- not good! That's what makes drug abuse such a problem in the long run.

Q: Is marijuana legal?

A: Maureen Boyle

At the federal level marijuana is illegal but some states are experimenting with legalization.

Q: Should weed be legal?

A: Maureen Boyle

Legalization of marijuana for adult recreational use and for medicinal purposes is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Q: Can people smoke marijuana at 16 years old?

A: Joni Rutter

Good question. They can, but teens are much more vulnerable to the harmful effects of drugs because the brain continues to develop and grow through the age of 25. You only have one brain, don't mess it up. Check out this video:

Development of the Young Brain:

<http://www.youtube.com/watch?v=XeIvtx6HHLg&list=PL6E78F0F3DFD5F044&index=12>

Q: Why is weed called the gateway drug?

A: Eric Wargo

Great question. We think weed can lead to using other drugs. The same is true of alcohol and tobacco.

Q: How long does it take to get addicted to pain killers?

A: Dave Thomas

I really like this question, and the answer is it really depends. Many pain patients take them for a long time, and do not become addicted. Other people may become addicted with just a few doses. When used to treat pain, health care providers and the patients have to be careful to reduce the chances of addiction,

Q: Is weed bad?

A: Eric Wargo

If you're a teen, yes, no question. If you use it a lot, you can lose 8 points of IQ, permanently.

Q: So you're telling me to smoke it when I'm older?

A: Joseph Frascella

No, best to never smoke, but if you start when you are older, you're less likely to get addicted. Thanks for asking!

Q: Is it ever safe to use drugs?

A: Ruben Baler

The short answer is that, when you have a young brain between your ears, the only drugs that are good for you are the ones prescribed by your doctor. Hope you get it.

Q: Can you die from the loud pack?

A: Ruben Baler

Loud pack is marijuana right? Then, no.

Q: What happens if you smoke every day?

A: Nora Volkow

If you smoke every day (cigarettes or marijuana) you are more likely to become addicted. You are also more likely to have lung disease and in the case of marijuana, if you smoke daily it will interfere with your school activities and will increase your chances of getting into accidents.

Q: Is the vapor cigarette really as bad as an actual cigarette?

A: Albert Avila

The real answer to that question is that we don't quite know the health impacts (whether good or bad) for e-cigarettes, so we can't compare if it's as 'bad' or not. E-cigs don't produce smoke like regular cigarettes, but they don't just contain harmless water vapor. They also contain nicotine, which can be harmful to the developing brain, and recent research suggests nicotine exposure may put the developing brain a higher risk of becoming addicted to other substances. Also, testing of some e-cigarette products found the vapor to contain known carcinogens and toxic chemicals (such as formaldehyde and acetaldehyde), as well as

potentially toxic metal nanoparticles from the vaporizing mechanism. The health consequences are not yet clear. E-cigs may have some potential to help adult established smokers quit, but again, the evidence is not clear. For more information, see <http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-cigarettes>

Q: Are there any professional purposes for marijuana?

A: Joni Rutter

Good question. At the moment, there are a few medicinal uses for certain components of the marijuana plant. Marinol and Dranabinol are drugs that act like certain chemicals from the marijuana plant. There are other chemicals from the marijuana plant that are under investigation for other medicinal uses, but we all want to be certain that they are safe and effective! Here's some more info: <http://www.drugabuse.gov/publications/drugfacts/marijuana-medicine>

Q: If you smoke marijuana can it help prevent cancer?

A: Eric Wargo

Great question. Lots of people claim that, but there's not much evidence it's true. Some chemicals found in the plant might one day be used in drugs for treating various diseases (cancer is a possibility, but we still don't know). But smoking marijuana isn't known to have any cancer-protective effect.

Q: What is a hookah? Does it have very harmful effects?

A: Albert Avila

A hookah is a pipe that burns flavored tobacco and passes the smoke through water before it is inhaled. Many think that smoking tobacco through a water pipe is safer than smoking a cigarette, believing that the water filters out the harmful chemicals. That's a myth! Hookah smoke contains the same harmful tar and other toxic chemicals that cigarette smoke has. Hookah smoking is linked to many of the same health problems as cigarette smoking—like heart disease and lung cancer. In addition, a typical hour-long hookah session, in which a person inhales several long, deep breaths of smoke, can equal as many as 100 cigarettes or more. Want to

know more about hookah? Click here: <http://teens.drugabuse.gov/blog/post/high-school-seniors-smoking-hookah>

Q: Can you die from smoking?

A: Bethany Deeds

Yes, you can die from smoking. Cigarette smoking is responsible for more than 480,000 deaths per year in the United States, including an estimated 41,000 deaths resulting from secondhand smoke exposure. This is about one in five deaths annually, or 1,300 deaths every day. As you can see, it's better not to even start smoking!

Q: What's the difference between crack and cocaine?

A: Ivan Montoya

Cocaine and crack are both drugs that come from the coca plant but differ in their chemistry.

Cocaine is a white powder that's usually snorted. Crack is a form of free-base cocaine that is solid and people smoke it. Their effects on the brain are similar and they both can be highly addictive.

Q: If there were no legal or professional repercussions, would you regularly smoke or ingest marijuana in some form for medical or recreational use?

A: Eric Wargo

No, definitely not. Drugs aren't nearly as fun as other ways of "getting high," like meditation. And there's no evidence marijuana really has medicinal effects.

Great question.

Q: I smoked a blunt before school. Is that okay?

A: Joni Rutter

Ummmm...you don't need my permission, but my advice would be think about the long-term consequences. Smoking pot is a risk: There is a lot we still don't know about who becomes addicted and why, and after how much drug exposure. We do

know that each person is different, so it's a little like playing "Russian Roulette" if you choose to use drugs. But, if you do, the earlier you stop, the more likely you will be to avoid addiction and the harmful brain changes that lead to it.

Q: What is MDMA?

A: Joseph Frascella

MDMA is the drug 3,4-methylenedioxy-methamphetamine. It's a psychoactive drug that causes euphoria. It can make people feel very happy and excited. In the body, MDMA acts as a serotonin-norepinephrine-dopamine releasing agent and reuptake inhibitor. MDMA has become widely known as "ecstasy" (shortened to "E", "X", or "XTC"), usually sold on the street as a table, but it can also have other unknown ingredients. The UK term "Mandy" and the US term "Molly" refer to MDMA in a crystalline powder form. You can learn more about MDMA at <http://teens.drugabuse.gov/drug-facts/mdma-ecstasy-or-molly>
Hope this helps.

Q: What are the effects of acid?

A: Jacqueline Lloyd

Thanks for your question! LSD, known as Acid, is a dangerous drug that has unpredictable psychological effects. People can experience delusions and visual hallucinations that can be frightening. In fact, "bad trips" can include terrifying thoughts and nightmarish feelings of anxiety and despair that include fears of insanity, death, or losing control. For more information about LSD, visit NIDA's website at <http://www.drugabuse.gov/drugs-abuse/lsd-acid>. It is important to remember that your brain needs room to grow---drugging it slows down. Not a good thing.

Q: What are the effects of shrooms on the brain and body?

A: David Shurtleff

Shrooms are a weird "drug"- They are hallucinogenic compounds. They have LSD-like effects and can alter perception of time, and cause an inability to discern fantasy from reality. Problem is sometimes these effects can lead to panic reactions

and “paranoia, disordered thinking, and a sensation of distance from one’s environment- not good. Long-term after effects can happen too, such as flashbacks, risk of psychiatric problems, and impaired memory,

Q: How can I avoid a drug test???

A: Eric Wargo

We're not experts on avoiding drug tests, so I don't know!

Q: Why do drugs make people do odd things?

A: Denise Pintello

Interesting question - and the answer can be very complicated. When people take drugs, it alters the chemistry in the brain, and may lead to distorted thinking (as well as other major physiological effects). This can lead to making risky decisions, doing things you would never do if you weren't on drugs, etc. Check out this link for more on how drugs affects the brain ---

<http://www.drugabuse.gov/publications/drugs-brains-behavior-science-addi...>

The best thing is to not take drugs so you or your friends don't end up doing odd things!

Q: Can you become addicted to a drug if you just take it once?

A: Nora Volkow

No, you need to take it several times to become addicted. However what can happen is that the first time you get exposed to the drug you like it so much that it makes you desire to take it again in the future, and this can initiate a path to problematic drug use or addiction.

Q: What foundation or company funds the research you do on drug use?

A: Jack Stein

NIDA is a federal government agency which gets its funding from the US Government which means, primarily from the tax payers- thanks for helping support us!!!

Q: How can I avoid drugs?

A: Redonna Chandler

Great question! Hang out with non-drug using friends and participate in activities offering natural reinforces like playing music, watching a movie, hiking, and sports. For me, a great way to spend time with friends is rock climbing. Reaching the top is a natural high you won't forget!! More information on drug use, including cool videos and games, is available on our teen site at: <http://teens.drugabuse.gov/> Or, follow NIDA's Twitter feed at: <https://twitter.com/NIDAnews>.

Q: I popped the molly and I'm sweating, what do I do???

A: Harold Gordon

Wow!! You should seek help and, I hope, avoid taking drugs in the future. We never know how drugs will affect us--people are different. So, even if something doesn't affect your friends, it could be serious for you. And who knows, even others who take Molly which is just another name for meth (or MDMA) may have different, but still serious, side effects. And of course, we are still learning what the long term effects are. If you see someone having a serious reaction to taking any drug, call 911.

Q: Has there been an increase in marijuana consumption over the recent years?

A: Jack Stein

Goooooood question! Marijuana use trends have gone up and down over the past several decades. Among teens it's been consistently high (no pun intended). Confusion about its dangers may contribute to its use. PS- mj today is MUCH more potent than it was decades ago. Check out drugabuse.gov for more of the scoop.

Q: I know a girl who is addicted to heroin. She injects it. She has been in 30 day rehabs before and also went to jail for almost 9 months--her longest time clean. She is back using again. What is the best treatment for her? Will she ever be able to stop using heroin? Right now she does not have health insurance, but she does have a job. She doesn't make enough to afford the cost of prescribed suboxone and Wellbutrin. She started opiates in high school - OxyContin. Now she is 23 yrs old.

A: Redonna Chandler

Tough situation and great question. Hold this vision - she can recover!! There are effective treatments for heroin addiction. Medications like Naltrexone, Methadone, and Buprenorphine could help her with her cravings and urges to use drugs. Also, behavioral therapies could help build her motivation to remain in treatment and provide her with someone to talk to about her drug problems and related issues like school, work, and relationships. Healthcare reform makes insurance available to people to cover the cost of treatment. Also, community health centers offer low cost treatment and assistance. For information on community health centers see: http://findahealthcenter.hrsa.gov/Search_HCC.aspx For more information about treatment see: <http://www.findtreatment.samhsa.gov/>

Q: If drugs and alcohol are so bad and illegal, why are THEY STILL BEING MASS PRODUCED!?!

A: Aaron White

Quite simply, supply and demand. There are people who make and sell drugs, including alcohol, because other people want to purchase and use them.

Q: How does it feel to be high? (just asking because I am curious)

A: Ruben Baler

People describe it as a very intense feeling of pleasure, above and beyond what you get from natural pleasures (sex, pizza, soccer, whatever rocks your world) but with a significant and sometimes catastrophic dark side. Too high a price if you ask me.

Q: Have you ever done drugs? If so how did it affect your body?

A: Nora Volkow

I tried smoking cigarettes when I was a teenager but it made me nauseated. I drink socially and I enjoy it but I get dizzy with more than one glass of wine so I have to be careful.

Q: How is life over there?

A: Jack Stein

Life is good! Check out the video feed....bunch of us science geeks getting to talk to kids all over the country...very cool :)

Q: Do you really think students are going to admit that they do drugs?

A: Jack Stein

Interesting question. There are several national studies done every year for the past several decades so we've learned how to get pretty accurate responses by designing surveys which ensure confidentiality and anonymity thus giving people/kids comfort in being honest! Check out "monitoring the future study" on drugabuse.gov for one of the biggest surveys done with teens every year.

Q: How easy can it be to become an addict?

A: Bethany Deeds

It is easy to start and hard to quit! Drugs are chemicals and when someone places them in their body, either by smoking, injecting, inhaling, or eating them, they tap into the brain's communication system and tamper with the way nerve cells normally send, receive, and process information. Different drugs—because of their chemical structures—work differently. Here is a link with additional information:<http://teens.drugabuse.gov/drug-facts/brain-and-addiction>. Thanks for your question!

Q: Worst case scenario when you start smoking?

A: Albert Avila

You can get cancer and possibly die. And as if death isn't bad enough, before you die, you get wrinkles, problems with your teeth, bad breath, smelly hair and clothes and you could poison other folks around you.

Q: Why are drugs worth so much money?

A: Jacqueline Lloyd

Great question. This is a very complicated question. The value of drugs varies based on multiple factors (illicit vs. licit, availability, where it comes from, how it is made, demand, and other factors). An important fact is the tremendous cost and consequences of drug misuse, abuse and addiction due to the use of tobacco,

alcohol and illicit drugs--an estimated \$711 billion in health care costs, crime and productivity. Now that's costly!

Q: Are painkillers as addictive as drugs like cocaine?

A: Dave Thomas

Pain killers can be very useful in the treatment of pain, but if misused or abused, they indeed can be very addictive, as is cocaine.

Q: What's the worst drug to be addicted too?

A: Ruben Baler

We get this question A LOT. Unfortunately this is one of those questions we can't really answer. You see, the effects of a drug are so different for different people that what's benign for one could be extremely dangerous for another. Having said that, some drugs, like meth, heroin and many synthetics which come laced with toxic chemicals are notoriously harmful to your health. Sorry I can't give you a ranking list but hope this helps.

Q: Does a vape affect you or your body in any way?

A: Cindy Miner

Electronic cigarettes are new to the scene and we don't have a lot of scientific data on their safety or effects yet. While they may be advertised as "safer" than cigarettes, there is a lot we don't know about the health consequences of e-cigarettes. There have been a few reports of e-cigarettes exploding when people use them causing some serious injuries to their hands and faces. The bottom line....you don't know what you are getting in these products or their health consequences. One thing we do know from research about nicotine is that it can affect the brain's development...and the brain is still developing well into your 20's, so using e-cigarettes is not a good idea for young people. For more information see:<http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-...>

Q: Why are there designated smoking areas in public locations when all government organizations disapprove of smoking in general?

A: Cindy Miner

If so, then you probably know quite a bit about how government works. I'm a scientist not an expert in government and policy, but I can tell you that smoke-free policies reflect the "will" of the local community. If your community wants to enact stricter smoke-free policies, those are done through, city, county and/or state governments. Other organizations, like schools can also act to restrict smoking on their properties.

Q: If tobacco is not healthy, why do they allow it in some states?

A: Cindy Miner

On a local level, cities and states are allowed to make its own laws as long as they fall within Federal law. For example, while the minimum age to buy tobacco is 18 on a national level, on a more local level, some places are moving to raise that minimum age. But, they can't lower it below 18. This is one reason why there are "Think Globally, Act Locally" bumper stickers.

Q: How much heroin can you take before you die?

A: Susan Weiss

Varies from person to person (how much they've used in the past, their genes, and other factors), and it depends on the quality of the heroin (how much other stuff its cut with). Certainly it's not going to be safe when you are getting it from a dealer. And there have been a number of contaminated batches that have hit the street with deadly results.

Q: Is weed bad?

A: Ruben Baler

It's pretty bad, yeah, but particularly when you are young and need to keep your brain at peak performance. Remember, it's a tough world out there and by using MJ (or other drugs) you are just giving your edge away, and for what? Get it?

Q: Why are drugs so addictive?

A: Ivan Montoya

Thanks for the question, Daniel. Drugs are addictive because they affect neurotransmitters, chemicals that brain cells use to communicate with each other.

Early on the drug may make a person feel good--'high'--and want to continue taking it. With continued use, however, the brain comes to need the drug. Now if the person stops using the drug his/her brain feels an urgent need called drug withdrawal. Often, addicted people get so desperate that they do anything including stealing to somehow get the drug. People who start using drugs need to understand that if they become addicted, the drugs will hijack their lives.

Q: Are drugs okay in small amounts?

A: Susan Weiss

That's a really good question--and one that we don't really have a lot of information on. The problem is that going from occasional to regular use to problematic use can happen very slowly without people noticing that they are losing control over their use. The other concern I would have for a young person is your developing brain (going strong until your early 20s)--would want to keep that as healthy as possible.

Q: What percentage of the population has used drugs?

A: Marsha Lopez

Great question. If we're talking about students your age, about 20 percent of 8th grades, 37 percent of 10th graders and nearly 50 percent of high school seniors have used illegal drugs. Since we know how dangerous drugs can be to the developing teenage brain, that really worries us here at NIDA. If you know anyone who's thinking about using drugs, let them know that they don't have to make that choice, and that they can choose to live a healthy and drug-free life.

If you want to know more about drug use rates, check out our site on the Monitoring the Future Survey (of 8th, 10th and 12th graders.) <http://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs>

Q: Is Mary Jane addictive?

A: Eric Wargo

Yep. About 1 in 6 teens who use Mary Jane will become addicted, and if they use it every day, a quarter to a half of them will be addicted.

Q: Where can you find crystal meth?

A: Susan Weiss

Hmm--why would you want to find it--didn't you see Breaking Bad? I can think of no good reason to look for it.

Q: Are drugs really all that bad?

A: Harold Gordon

Drugs are chemicals. When you say drugs, I assume you mean drugs that are illegal and not used or needed to treat diseases of the brain and body. Any chemicals that reach the brain affect the way it works. The brain has nerve cells called neurons to keep it healthy. Drugs make these cells work in ways that it wasn't "designed" to work. The brain tries to be "smart" and changes itself because of these drugs. If the brain is not working properly, then therapeutic drugs are needed. But drugs that are not approved for anything therapeutic can have side effects which are serious consequences for our health. There is a lot of information about the health effects of drugs on NIDA's teen site here:

<http://teens.drugabuse.gov/drug-facts>

Q: What occurs in the brain when someone becomes addicted to a drug?

A: Harold Gordon

Drugs are, as you know, chemicals. And any chemicals that reach the brain (through blood vessels) affect the way it works. The brain has nerve cells called neurons and many other kinds of cells to keep it healthy. Drugs make these cells work in ways that it wasn't "designed" to work. The brain tries to be "smart" and changes the way it work because of these drugs. One becomes addicted because now the brain wants those chemicals (drugs) to keep on working in the new way. Unfortunately, that also means it has side effects which are serious consequences for our health. There is a lot of information about the health effects of drugs on NIDA's teen site here: <http://teens.drugabuse.gov/drug-facts>

Q: What are some of the major long-term effect of drugs?

A: Dave Thomas

Depends on the drug. There are a lot of abused drugs and they can have effects

from brain damage, liver damage, cancer to death. Drugs are particularly harmful when the brain is still developing and it is still developing all the way into your 20s!

Q: What's the difference between hard drugs and soft drugs?

A: Nancy Pilotte

Interesting question. This is a historically old distinction between legal drugs like nicotine and alcohol (legal="soft") and illegal drugs like cocaine, marijuana, opiates, PCP, amphetamine and its derivatives (illegal="hard"). But we no longer use this distinction because we know that all chemicals (drugs) used inappropriately can harm your health. There is a lot of information about the health effects of drugs on NIDA's teen site here: <http://teens.drugabuse.gov/drug-facts>.

Q: What does it feel to inhale cocaine?

A: Ruben Baler

Some people may find the experience disgusting and never repeat it. For others, the experience can be extremely pleasurable and the reason why they want to keep using over and over and over again, until they lose control and then all hell breaks loose. Better never start.

Q: Is cocaine a cool drug to use?

A: Ruben Baler

In a weird way, it can be: some cocaine users have been made cold forever. Your choice.

Q: Why are drugs STILL BEING MASS PRODUCED!?

A: Jessica Cotto

Thanks for your question! They aren't exactly mass produced but the reason why they are produced at all is because of the demand for their use--about 1 in 6 persons used drugs in the past year!

Q: How do you get addicted to drugs?

A: Bethany Deeds

Thanks for the question! It is confusing to some people the why or how individuals become addicted to drugs. It is often mistakenly assumed that drug abusers lack willpower. Addiction is a chronic, often relapsing brain disease that causes compulsive drug seeking and use, despite harmful consequences to the addicted individual and to those around him or her. Although the initial decision to take drugs is voluntary for most people, the brain changes that occur over time challenge an addicted person's self-control and hamper his or her ability to resist intense impulses to take drugs. Check out the link below for more information: <http://teens.drugabuse.gov/drug-facts/brain-and-addiction>

Q: Do you get trippy after you smoke weed?

A: Joni Rutter

It is sure possible. A major effect of weed is that it causes sensory perception changes--making you feel trippy. But even if you think it might feel good, it messes with your brain. Here's some more information - <http://www.drugabuse.gov/publications/marijuana-facts-teens/want-to-know...>

Q: What is actually LSD, and what are the side effects?

A: Jacqueline Lloyd

Very good question. LSD is a dangerous drug that has unpredictable psychological effects. People can experience delusions and visual hallucinations that can be frightening. In fact, "bad trips" can include terrifying thoughts and nightmarish feelings of anxiety and despair that include fears of insanity, death, or losing control. For more information about LSD, visit NIDA's website at <http://www.drugabuse.gov/drugs-abuse/lsd-acid>.

Q: What is the most harmful drug to take?

A: Joni Rutter

All drugs are harmful, and the dose makes the poison. So, the drug that someone takes is the most harmful to them. Most drug abuse researchers are reluctant to draw simple comparisons between the harms of different classes of drugs, and for good reasons. Substances can affect the body and brain in different ways and a

drug that proves relatively benign for one person's life and health may have a disastrous effect on another person, for reasons ranging from differences in age and genetic vulnerability to countless variables in life experience.

Q: If you have drugs in your system during sex will your future baby come out stoned?

A: Joni Rutter

Interesting question. Let's talk about sex. If you have drugs in your system during sex, they will not cause your baby to come out stoned. It's more interesting than that. Research shows that parents who take drugs (even prior to having sex) can influence the behavior (and drug use patterns) of their offspring. For example, for adolescent mice exposed to marijuana that then have babies, the girl offspring are at risk for opioid exposure. Fascinating, eh? What you do before having a baby can have effects on the baby later in life.

Q: How does cocaine affect the brain?

A: Nancy Pilotte

Stimulants like cocaine enter the brain, and primarily bind to a protein called the dopamine transporter, preventing it from working properly. The dopamine transporter regulates amounts of dopamine circulating in the brain, essentially flooding the brain with dopamine. This flood of dopamine is what causes the "high" or intense excitement and happiness (sometimes called euphoria) linked with drug use so that you lose interest in the normal things that cause pleasure, like eating or winning at sports.

Q: If alcohol is not good and leads to kill people, then why is it legal? Does it have a good impact on economy?

A: Aaron White

Alcohol has been a part of American culture since the colonists arrived, and every generation since then has been raised in a culture in which lots of adults consume alcohol. Many people still do not consider it a drug at all. But things are changing. The number of teenagers who drink alcohol in the United States has decreased almost in half over the last 20 years.

Q: What is the worst drug?

A: David Shurtleff

That is a great question! Drugs of abuse like cocaine, heroin, alcohol, marijuana and tobacco all cause problems and get to the brain--actually the "reward centers of the brain." Drugs like cocaine, which is typically snorted, like heroin which is typically injected, and cigarettes(nicotine), which are smoked, get to the brain really fast causing a "rush" of dopamine. That may lead to more use and addiction making it hard to stop, which can lead to other health problems even overdose and death. But all drugs of abuse, including alcohol, can also lead to addiction if taken a lot. Some can drugs can be toxic to the brain like Methamphetamine and MDMA. All have their issues so it's hard to say what is the worst one... There is a lot of information about the health effects of drugs on NIDA's teen site here:
<http://teens.drugabuse.gov/drug-facts>

Q: What happens to you if you mix weed, cocaine, and meth?

A: Susan Weiss

Who knows--so many possible bad outcomes when you mix drugs--car wrecks, panic attacks, paranoia...loss of control, any number of regretful experiences.

Q: Can you die from mary jane?

A: Lis Davis

It's highly unlikely that someone would die just from using marijuana. It does raise the risk for heart attacks and for some people they can have a psychotic reaction, which can then cause them to do something to harm themselves (or others). But mostly, marijuana distorts your perception and so it's when people drive while under the influence that they risk death. Stay safe!

Q: What are the long term effects of steroids?

A: Ruben Baler

Instead of giving you a long boring lecture, why don't you check out my video?

<https://www.youtube.com/watch?v=z9Ynf2kPNic>

Q: How do drugs affect the brain?

A: Harold Gordon

Using drugs is like dumping chemicals on the brain so it naturally affects the way the brain works. The brain has nerve cells called neurons which are part of a network of cells designed to keep it healthy. Drugs make these cells work in ways that it wasn't "designed" to work. The brain tries to be "smart" and changes the way it work because of these drugs. When a person becomes addicted from repeated drug use, the brain wants those chemicals (drugs) to keep on working in the new way. But that also brings side effects which are serious. There is a lot of information about the health effects of drugs on NIDA's teen site here:
<http://teens.drugabuse.gov/drug-facts>

Q: Does weed make you dumber?

A: Joseph Frascella

Yes. Marijuana can affect one's ability to learn and process information, and it can affect attention and memory. All of these abilities are needed, especially when you are in school learning and synthesizing information every day. One study showed that teens who used marijuana a lot lost an average of 8 IQ points by the time they were adults. Learn more at <http://teens.drugabuse.gov/drug-facts/marijuana>.
Thanks for writing.

Q: What side effects of heroin?

A: Michelle Leff

Here are some effects of heroin - sleepiness, feeling of calm or euphoria, slower heart rate, urge/desire to use more. Heroin is physically and mentally addictive, and people who become addicted need to take it to avoid extremely unpleasant withdrawal effects, including muscle aches, diarrhea, and chills. Heroin overdose is fatal; more than 4,500 Americans died of this cause in 2011. There is a lot of information about the health effects of drugs here: <http://teens.drugabuse.gov/drug-facts>

Q: Should marijuana be legalized?

A: Susan Weiss

I think it's a bad idea and here's a few of the reasons why--we know it's not good for young people, whose brains are still developing and if it becomes legal, more people may use it, including those who are underage; but also, if it becomes legal and there's lots of money to be made from it, industries like tobacco will become involved and they are expert at marketing to young people and making products as addictive as possible. Most of the money made by the tobacco (and alcohol) industry comes from heavy users and those who are addicted to their drugs. Users who start young are more likely to become addicted to any drug (for marijuana the rate goes from 9% up to ~16%),

Q: Have any of you ever smoke weed yourself?

A: Nora Volkow

I have not. I was very lucky for in my school they never offered me any drugs.

Q: What is inside alcohol?

A: Aaron White

Alcohol is a very small, very simple molecule. It's just made of hydrogen, carbon and oxygen.

Q: If alcohol and drugs are so dangerous and addictive, WHY ARE THEY STILL BEING MASS PRODUCED!?

A: Aaron White

Quite simply, supply and demand. As long as people want to purchase and use alcohol and other drugs, someone will make them and sell them.

Q: Do you think marijuana should be legalized throughout the country?

A: Maureen Boyle

Legalization of marijuana for adult recreational use and for medicinal purposes is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Q: Is marijuana the least harmful drug there is?

A: Eric Wargo

No, not at all. The least harmful is probably caffeine. Marijuana has lots of dangers, especially when you're young.

Q: Are drugs fun while it lasts?

A: Ruben Baler

For some people yes, for some the experience could be a nasty one.

Q: Do steroids cause penile or testicular atrophy?

A: Ruben Baler

Anabolic steroids will turn your big day into a small day indeed, regular use can cause testicular shrinkage. So watch out.

Q: Why do people take steroids? What are the side effects?

A: Nancy Pilotte

Anabolic steroids can be legally prescribed to treat conditions resulting from steroid hormone deficiency, such as delayed puberty, as well as diseases that result in loss of lean muscle mass, such as cancer and AIDS. But some athletes, bodybuilders, and others abuse these drugs in an attempt to enhance performance and/or improve their physical appearance. People who abuse steroids risk heart disease, liver damage (even in young people), and may stop growing tall earlier than you should. It also can cause aggression, and if you are a female who is using anabolic (androgenic) steroids, your voice may deepen permanently, grow facial hair, and develop male-pattern baldness.

Q: Can the mary jane be healthy?

A: Eric Wargo

No, probably not. There's no positive long-term effect on the brain, and no evidence it actually cures or prevents most diseases. The question is how bad is it for you. If you're a teen, using regularly is definitely bad.

Q: Is it true that marijuana is as or less dangerous than alcohol in terms of discussion making and as or less dangerous than tobacco in terms of immediate

health concerns? If so, why are alcohol and tobacco legal while marijuana is not in most places?

A: Susan Weiss

This is a complex issue, since its comparing apples and oranges. We are still trying to understand just how harmful marijuana is to the developing brain (prenatally and in adolescence, which are two of the biggest growth spurts), but evidence is converging on long term detrimental effects on memory, learning, and mental health -- in vulnerable individuals. Also, one of the reasons we know so much about the adverse consequences of alcohol and tobacco is because they are legal and widely used by people throughout their lives. Thus, we've seen the many ways that illnesses that are linked to them emerge. And even so, they are probably not the most dangerous drugs (e.g., methamphetamine and heroin are worse), but they cause the most harm because they are widely available. So adding another substance to the legal choices is not likely to decrease the public health costs--it will most likely increase them.

Q: What makes drugs so expensive?

A: Jacqueline Lloyd

Great question. This is a bit complicated. Legal drugs can be expensive because of the cost of research, discovery and production. The cost of illegal drugs may be driven by the amount of supply and demand.

Q: What do you do for your job?

A: Albert Avila

Currently, I help researchers across the county get funding to support their research goals and interests. I spend a lot of time helping scientists just starting out including: high school, undergraduates, graduate students and postdocs learn how to build their scientific careers. I direct a summer internship program for high school and undergraduate students. If you are interested in learning about substance abuse research see the following link:

<http://www.drugabuse.gov/offices/office-nida-director-od/office-diversity-health-disparities-odhd/odhd-research-training-programs/2015-summer-research-nida-internship>.

Q: What work is being done with unregulated drugs on the black market?

A: Nora Volkow

We are doing research on bath salts and on spice to understand what are the active chemicals, how do they act and what are the harmful effects. We are also doing research to develop tools for easier detection of these chemicals.

Q: What drug is the most harmful to the human body?

A: Ruben Baler

Good question and one we get A LOT. Unfortunately this is one of those questions we can't really answer. You see, the effects of a drug are so different for different people that what's benign for one could be extremely dangerous for another. Having said that, some drugs, like meth, heroin and many synthetics which come laced with toxic chemicals are notoriously harmful to your health. Sorry I can't give you a ranking list but hope this helps.

Q: Is weed bad for your health?

A: Joni Rutter

Thanks for your question. Weeds are bad for your yard, and weed is bad for your health. Some side effects include panic, anxiety, sensory distortion, lack of coordination, increased heart beat, etc. Here is some additional info.

<http://www.drugabuse.gov/publications/marijuana/what-are-marijuana-effects>

Q: What do you do if you know someone who has an addiction, but thinks it isn't a problem?

A: Redonna Chandler

It can be really difficult to support someone with a serious drug problem - especially if they don't recognize the extent of the problem. Here are some ideas. Give your support and let them know the impact you see drugs are having on their behavior, school performance, relationships, and so on. Encourage them to go to the NIDA website for more information on the impact drug use has on the brain and body. You might ask them to consider seeking treatment or at least talking to

a trusted adult - maybe they would feel comfortable talking to a teacher, parent, or coach. And remember to take good care of yourself. Supporting a friend with a drug problem is stressful!! We have lots of helpful information on drug use on our website at: <http://teens.drugabuse.gov/>. And for information about treatment go to: <http://www.findtreatment.samhsa.gov/>.

Q: So we know all the dangers of drugs, but how do we stop people from using them? When alcohol was illegal it caused more violence... so do you think the legalization of marijuana will stop the demand for marijuana?

A: Susan Weiss

Legalization will certainly not stop the demand for marijuana, and even during prohibition--alcohol use and its health consequences went down. Unfortunately other problems did not, such as the illegal manufacturing and distribution of alcohol. The other problem that is likely to emerge with legalization of marijuana is the growth on an industry that makes its money by getting people addicted to the drug--and starting them early increases that likelihood. Our 2 biggest public health problems now are tobacco and alcohol related. This is not because these are necessarily the most dangerous drugs--but they are the most widely available.

Q: Are rx drugs really deadly?

A: Bethany Deeds

Thanks for your question! My answer: YES!!!!!! Did you know that the number of unintentional overdose deaths from prescription pain relievers has soared in the United States, more than quadrupling since 1999? Check out this link for more information:

<http://teens.drugabuse.gov/blog/post/drug-overdoses-kill-more-than-cars-...>

Q: What is molly ?????

A: Joseph Frascella

Molly is the street name for MDMA or Ecstasy. MDMA is the drug 3,4-methylenedioxy-methamphetamine. It's a psychoactive drug that causes euphoria. It can make people feel very happy and excited. In the body, MDMA acts as a

serotonin-norepinephrine-dopamine releasing agent and reuptake inhibitor. MDMA has become widely known as "ecstasy" (shortened to "E", "X", or "XTC"), usually sold on the street as a tablet, but it can also have other unknown ingredients. Read more here: <http://teens.drugabuse.gov/drug-facts/mdma-ecstasy-or-molly>. Thanks for asking!

Q: What is LSD and what are its affect on the mind and body?

A: Nancy Pilotte

LSD is Lysergic Acid Diethylamide, and it interacts with the brain at very specific sites on brain cells (neurons) that make serotonin, a brain transmitter that has been implicated in depression and aggression. LSD can produce hallucinations, which can recur even for a long time after they have stopped taking it. Some LSD users experience severe, terrifying thoughts and feelings of despair, fear of losing control, or fear of insanity and death while using LSD. People take this drug because they think it will provide them with new insights and changes in perception of their surroundings. Fortunately, this is one of the drugs whose usage is declining among teens: <http://www.drugabuse.gov/related-topics/trends-statistics/monitoring-future/monitoring-future-figures-2014>.

Q: Which drug is the least harmful?

A: Susan Weiss

Caffeine--for most people.

Q: Do steroids make your penis smaller?

A: Nancy Pilotte

No, but the excessive use of anabolic steroids (androgens) can make you impotent! Your own body produces all the steroids your need to maintain a healthy body. This is another case of when more is not better!

Q: Hi, I have been chronically taking crystal meth, I am in 10th grade, and I cannot stop. What do I do!?!?!? Please help!! I am so glad I have the opportunity to ask someone like you guys!

A: Jeffrey Schulden

It sounds like you're having a rough time. Crystal meth addiction -- any addiction -- is a serious problem, often difficult to break on your own, and it's great that you're seeking help! The best way to beat an addiction is to seek help from a trained counselor. You can call 1-800-662-HELP to talk confidentially with someone who can help, or you can look for a treatment program in your area at <http://www.findtreatment.samhsa.gov/>. If you feel in crisis, you can also call 1-800-273-TALK to talk to a professional who can help. If you feel comfortable doing so, I would also recommend talking with an adult whom you trust – your parents, maybe a teacher or coach. You could also discuss treatment options with your regular doctor. I hope this helps! You can also find additional information about addiction treatment at <http://www.drugabuse.gov/publications/principles-drug-addiction-treatment>.

Q: Have you ever done drugs and suffered from the consequences??

A: Belinda Sims

I've never been a smoker, nor have I used illicit drugs. But I think it's important to educate yourself on drugs and the possible consequences. There is a lot of information about the health effects of drugs on NIDA's teen site here: <http://teens.drugabuse.gov/drug-facts>

Q: After a while what does weed do to your brain?

A: Dave Thomas

Here are some facts on marijuana. <http://www.drugabuse.gov/drugs-abuse/marijuana>. Bottom line, looks like it can lower your IQ and change your brain in harmful ways, but we still to do more research to find out the full impact.

Q: My anabolic steroids are not working.

A: Ruben Baler

Count your blessings and move on...

(you can check my video if you want to learn about the things you may be avoiding by not using steroids)

Q: What is an inhalant?

A: Jacqueline Lloyd

Inhalants refers to a wide variety of substances—including spray paints, markers, glues, cleaning fluids, solvents, aerosols, gases, and nitrites—that are only taken by inhaling them. These volatile and very dangerous substances produce chemical vapors that when inhaled produce a mind-altering effect and can even be deadly. For more information on inhalants and the effects, see:

<http://teens.drugabuse.gov/drug-facts/inhalants>

Q: Why do you need to ask for sudafed at the pharmacy?

A: Joseph Frascella

Because Sudafed can be used to make methamphetamine, so its sales over the counter are now restricted.

Q: What is the appeal of Lean (cough syrup and Sprite)?

A: Jacqueline Lloyd

I don't know! Drinking cough syrup or medicines doesn't sound appealing to me. Plus in high quantities they can affect the brain in much the same way that illegal drugs do. Dextromethorphan (DXM) and Promethazine-codeine cough syrup are the most commonly abused cough and cold medicines. DXM can cause impaired motor function, numbness, nausea or vomiting, increased heart rate and blood pressure, and at high doses, extreme agitation and increased body temperature. When abused, promethazine-codeine cough syrup presents a high risk of fatal overdose and mixing with alcohol greatly increases this risk.

The Teen Brain: Still Under Construction.

<http://www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml>

Q: What are the effects of LSD??

A: Jacqueline Lloyd

Very good question. LSD is a dangerous drug that has unpredictable psychological effects. People can experience delusions and visual hallucinations that can be frightening. In fact, "bad trips" can include terrifying thoughts and nightmarish feelings of anxiety and despair that include fears of insanity, death, or losing control. For more information about LSD, visit NIDA's website at <http://www.drugabuse.gov/drugs-abuse/lsd-acid>.

Q: What are drugs?

A: Joseph Frascella

Great question! We describe drugs as substances introduced into the body that affect the brain in various ways. Click here for a list of drugs and their effects: <http://teens.drugabuse.gov/drug-facts>.

Q: What is in marijuana???

A: Eric Wargo

The marijuana plant contains several hundred chemicals, but the main ones that affect the brain are a group of chemicals called cannabinoids. The main one that makes you high is THC (tetrahydrocannabinol), and another cannabinoid called cannabidiol (CBD) actually counteracts some of THC's effects. Different strains with different effects on people mostly differ on the amount and ratio of these two chemicals. Great question!

Q: What makes drugs so valuable and expensive?

A: Ruben Baler

It's a market thing. Has to do with supply and demand variables. In my mind, they are always too expensive because you are paying with your well being. Get it?

Q: Should I start doing Meth if my friends are doing it??????

A: Maureen Boyle

I hope you wouldn't take chances with your own health and wellbeing simply because a friend was. People who use methamphetamine may experience anxiety,

confusion, insomnia, and mood disturbances and display violent behavior. Methamphetamine use can lead to addiction and causes chemical and molecular changes in the brain that can cause serious physical and cognitive problems.

Q: Does the high rate of smoking relate to obesity in America?

A: Mary Kautz

Interesting question. A recent study showed results suggesting that obesity and nicotine addiction share common genetic and biological roots. There seems to be an interesting paradox in the relationship between smoking and BMI: Smokers on average have a lower BMI than nonsmokers, but smokers who smoke more have a higher BMI than those who smoke less. Nicotine's appetite-suppressing and metabolism-accelerating effects can account for the first observation. The study's finding that some genes simultaneously promote increased BMI and nicotine consumption may partly explain the second. Check out the article at <http://www.drugabuse.gov/news-events/nida-notes/2014/10/genetic-nexus-ob...> Thanks for your question and don't forget to check out our Facebook page at <https://www.facebook.com/NIDANIH>

Q: My 3 of my uncles died from alcohol and most of my family drinks and are addicted does that mean I'm in danger of addiction?

A: Aaron White

Yes, it could. Research suggests that people with a family history of alcoholism are much more likely to develop alcoholism, too, particularly if they start drinking while they're still teens.

Q: Does a vape affect your body or you in general?

A: Albert Avila

Good question. The short answer to that is that we don't really know. E-cigs are not currently regulated by the federal government, so we don't really know what exactly is in them, what by-products they produce, what are the health impacts (positive or negative). Luckily, scientists are currently conducting testing on e-cigs to figure this out. What we do know is that nicotine is highly addictive and can have long-lasting effects on the developing brain. Testing of e-cig products also

shows that e-cig vapor contains some known cancer-causing agents, small metals and more...so it's not just harmless water vapor. There's a lot of advertising about e-cigs now days...and all of it focuses on how great they are, how safe they are, but we really don't know that for sure. Stay safe!

<http://teens.drugabuse.gov/blog/category/265>

Q: What is an inhalant?

A: Susan Weiss

Any drug that you take by inhalation--examples are toluene, butane. All are harmful and can cause death by asphyxiation (not enough oxygen to the brain). They can also harm myelin--which coats neurons and helps them communicate efficiently with each other.

Q: If you snort a whole bowl of cocaine will you die?

A: Ivan Montoya

Oh yes.... Anyone who snorts that much cocaine is going to be in really bad shape. Cocaine intoxication is a medical emergency and many people end up in the ER. Cocaine produces a fast increase in adrenaline, resulting in tachycardia, high blood pressure, heart arrhythmias, and in some cases heart failure and death. The amount of cocaine that can kill a person varies a lot from one individual to another. Some people who are sensitive to the effects of cocaine or have heart conditions can die after using doses much less than a bowl of cocaine.

Q: Are electric cigarettes bad for you?

A: Cindy Miner

Electronic cigarettes are new to the scene and we don't have a lot of scientific data on their safety or effects yet. While they may be advertised as "safer" than cigarettes, there is a lot we don't know about the health consequences of e-cigarettes. There have been a few reports of e-cigarettes exploding when people use them causing some serious injuries to their hands and faces. The bottom line....you don't know what you are getting in these products or their health consequences. One thing we do know, nicotine can alter brain development in young people---and we know the brain is still developing well into the early 20's. So if you value your ability to think and enjoy life, I wouldn't mess around with it.

For more information see:

<http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-...>

Q: How many approximately die from these substances?

A: Marsha Lopez

Unfortunately the answer is too many! It's hard to say what a drug will do to your body, especially as a teen. But we know that over the past few years prescription painkillers (we call them opioids) have caused the most deaths (more than cocaine and heroin, **combined!**). Our friends over at the Centers for Disease Control and Prevention have good data on this. One kind of shocking fact is that drug overdose was the leading cause of injury death in 2012! There were about 43,900 drug overdose deaths in America in 2013. A whopping 35,663 (81.1%) of those were unintentional, which underlies how dangerous drugs can be. So remember that every day you don't do drugs you're not only a prevention champion, you're making a healthy choice! For more info, check out:

<http://www.drugabuse.gov/related-topics/trends-statistics/overdose-death...>

Q: What can be done about dangerous synthetic drugs on the black market? Is there any hope of regulating them or raising awareness of their danger?

A: Ruben Baler

Good question. It's a tough one, because unscrupulous chemists can keep coming up with new modified versions that will not be regulated for while, until they are, and then the cycle starts all over again. It's like chasing your own tail.

That's why the smarter approach is to do good prevention and making kids smarter about drugs in general. Stay healthy.

Q: What's the most illegal drug?

A: Bethany Deeds

Thanks for your question. There are many illicit drugs that people use. Check out the link below to see data on people who use various illicit drugs. <http://www.drugabuse.gov/national-survey-drug-use-health>

Q: I wish you people would be honest about weed and all that instead of acting like a teacher or counselor and not giving us truthful answers.

A: Susan Weiss

Sorry, but we are being honest. Marijuana is just not the harmless drug that people want to believe it is, and the risks are greatest for young people. About 4 million people in this country are addicted to it--and it's not easy to quit; and the evidence is mounting that regular use among young people (whose brains are still developing) is associated with long lasting effects on IQ, school success, professional success, and overall life satisfaction. Of course, not everyone will suffer these consequences, but not everyone suffers the consequences of heroin use either--but you wouldn't want to recommend that to anyone (I hope).

Q: What does genetics have to do with addiction?

A: Joni Rutter

Only the really smart students ask about genetics :). I'm a geneticist and it's true that you can inherit diseases from your parents. For example, Huntington's Disease is 100% genetic so that, if passed on, the gene causes all of the children to be affected. That means that inheritance, in the form of genes, plays a large role in drug addiction also. Research shows that drug addiction is about 50% heritable. BUT.....while genes play a big role, they are only part of the picture. Other factors, friends who don't use drugs or being involved in sports, also affect your risk of trying drugs and of becoming addicted to them. Researchers are making cool advances studying the role of genes in addiction.

Q: If all drugs can cause birth defects during pregnancy, does caffeine have any negative effects on an infant's health?

A: Ruben Baler

Caffeine is a very safe drug at the concentrations that are consumed typically.

Q: Is caffeine harmful to the organism?

A: Albert Avila

Folks use caffeine every day, but whether or not it is dangerous to you depends on how much you drink. If you drink a lot of it--and some of the energy drinks contain a lot of caffeine, it can make your heart race, can make you anxious or panicky, and can mess up your natural sleep patterns. In moderation--it's probably not harmful. Check out this link for more info - <http://teens.drugabuse.gov/blog/category/265>

Q: What is an inhalant?

A: Dave Thomas

Inhalants are drugs that people breath in high amounts. They include chemical vapors, like gasoline or glue vapors. One of the harmful things with inhalants is their brain gets less oxygen, which can cause brain damage. Here is a link to our website with more information: <http://www.drugabuse.gov/drugs-abuse/inhalants>

Q: Are there things besides drugs people can get addicted to? I've heard of people being addicted to porn/sex, and there are shows where people are addicted to eating strange things. Are those real addictions? Do they affect people the same way as drug addictions do?

A: Ruben Baler

Absolutely, there are several behaviors, besides psychoactive drug ingestion, that can produce short-term reward and that may engender persistent behaviors despite knowledge of adverse consequences, i.e., diminished control over the behavior. These addictions involve a very similar brain circuitry. We are only beginning to study such behavioral addiction applying some of the lessons we learned from drug addiction.

Q: Can you get high off of any drug, including legal, OTC drugs?

A: Bethany Deeds

Yes, you can. In fact, prescription and over-the-counter (OTC) drugs are, after marijuana (and alcohol), are still the most commonly abused substances by

Americans 14 and older. Click here to learn more about it:

<http://teens.drugabuse.gov/peerx/facts-rx-and-over-counter-drugs>

Q: Why can I still buy medicine containing pseudoephedrine, the main ingredient in modern meth in stores?

A: Bethany Deeds

Great Question! Because.....Achoooooo! (I'm sneezing). Pseudoephedrine is a decongestant that shrinks blood vessels in the nasal passages. We use it commonly to treat nasal and sinus congestion. Since it has a clear medical use-- we balance the benefits and risks. On the risk side, most states also have laws regulating pseudoephedrine now (which is why they are behind the pharmacy counter and you need to sign for it). Here is a fact sheet on the legal requirements on the sale and purchase of products containing pseudoephedrine:

<http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm072423.htm>

Q: Why is the legal drinking age 21 in America, when it is 18 everywhere else in the world?

A: Aaron White

You bring up an interesting question. The US created the 1984 law raising the minimum legal drinking age to 21 because too many young people were getting hurt by drinking alcohol. Raising it to 21 helped to significantly reduce the number of young people killed in alcohol-related car crashes. By contrast, kids drink more heavily in places like Europe and Australia, where the drinking age is lower than 21. So, raising the drinking age was a good thing. And while too many kids in high school drink, many do not. Avoiding alcohol will help keep you safe. You can learn more about avoiding the peer pressure to drink at:

<http://www.thecoolspot.gov/index.asp>

Q: Harold, thank you for answering my question, but more specifically, how do these chemicals affect brain cells? I know caffeine imitates a hormone for tiredness and blocks the receptors in neurons from receiving signals. Do other drugs work similarly as hormones and use cell signaling to alter the brain?

A: Harold Gordon

I'm glad you are interested enough for a follow-up question. Your question tells me that you may be aiming to the world of science as a career. Considering we are getting thousands of questions here at the Chat Center, I cannot give you a lecture on the specifics of how various substances work. Hormones, of course, are endogenous (in the body) chemicals, each affecting receptor or transmitter parts of the nervous system. How each one works depends on the shape, size, and atomic (which atoms) make up of the particular molecule. Here is a resource on the Science of Addiction that may help you learn.

<http://www.drugabuse.gov/publications/drugs-brains-behavior-science-addi...> .

Q: Hey Maureen, aka my twin, are there rare drugs that the US hasn't been exposed to yet?

A: Maureen Boyle

Probably. NIDA keeps track of emerging drug trends here:

<http://www.drugabuse.gov/drugs-abuse/emerging-trends>

Q: How much alcohol do you need to consume to be intoxicated?

A: Aaron White

Getting drunk depends on several things, including the size of the person and whether they are male or female. For some people, just one drink can be enough to make them feel intoxicated and cause impairments. For others it might take a few more. Adults are considered to be legally drunk when their blood alcohol level (a measure of the amount of alcohol in the blood) reaches a level of 0.08%, which happens after about 4 or 5 drinks in a few hours.

Some factors that affect how quickly people get drunk are:

- How much alcohol you drink and how fast you drink it
- Whether you have food in your stomach to slow how quickly alcohol gets into the body
- How much you weigh
- Whether you are male or female - girls tend to be affected more by alcohol than boys

Q: How do I stop smoking weed?

A: Maureen Boyle

NIDA has a great guide on what to do if you have a problem with drugs:

<http://www.drugabuse.gov/related-topics/treatment/what-to-do-if-you-have...>

Q: What percent of teens use heroin?

A: Marsha Lopez

Teens is a big age range! According to the 2014 Monitoring the Future Survey between 0.5-0.6% of 8th, 10th, and 12th graders in the US reported they had used heroin in the past year. That's less than 1%! While less than 1% doesn't sound like much, that can still be thousands of your peers who are using really dangerous and addictive drugs. Ick! If you know anyone who's struggling with drug abuse--any kind of drug, not just heroin--don't hesitate to get help. Talk to your family, friends, teachers or counselors to help stay healthy and drug free!

Q: What are the medicinal properties of weed?

A: Eric Wargo

None that we know for sure, because not enough big studies (clinical trials) have been done. Lots of cancer patients take it to help with nausea from their chemo, and this is probably a real effect, because THC suppresses nausea. It may also be useful for pain. But there are actual FDA approved drugs that contain THC too. Great question.

Q: Should marijuana nationally legalized?

A: Maureen Boyle

Legalization of marijuana for adult recreational use and for medicinal purposes is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Q: What is the most commonly used drug in Oklahoma?

A: Marsha Lopez

I can start off by telling you that nearly 8% of Oklahomans ages 12 and older are current drug users, and like the rest of the US, marijuana is the most commonly used drug with around 5.5% of Oklahomans reporting current use. You can see how Oklahoma compares to other states on the National Survey on Drug Use and Health website of state estimates.

Q: What are the signs to steroid addiction?

A: Nancy Pilotte

Steroid addiction is a hot topic today! It refers to the excessive use of anabolic steroids (testosterone and drugs that have similar pharmacological actions). Abuse of anabolic steroids may lead to aggression and other psychiatric problems, for example. Although many users report feeling good about themselves while on steroids, extreme mood swings can also occur, including manic-like symptoms and anger (“roid rage”) that may lead to violence. Researchers have also observed that users may suffer from paranoid jealousy, extreme irritability, delusions, and impaired judgment stemming from feelings of invincibility. For physical symptoms, see <http://www.drugabuse.gov/publications/drugfacts/anabolic-steroids>. For other ways to recognize addiction and whether someone needs help, see <http://teens.drugabuse.gov/drug-facts/brain-and-addiction>

Q: What drug is the most addictive?

A: Albert Avila

I don't think it's a good idea to cherry pick which drug is bad or worse. All drugs can be addictive and it's important to remember, there is no 'safe' drug. All drugs such as cocaine, methamphetamine, nicotine (from cigarettes, cigars), marijuana, have the potential for abuse and can produce unsafe consequences throughout the body and brain - and disease over time. Stay safe and have a great day! Also, check out NIDA's teen site...you'll find some really cool and interesting things there - <http://teens.drugabuse.gov/drug-facts>

Q: What is wrong with drugs when people say they got a bad dose?

A: Albert Avila

I'm not sure what someone means when they say got a bad dose of a drug. It could mean there was something else in the drug they took that gave them a bad side effect which they weren't expecting. It could mean they had no effect at all. It is best to only use legal drugs as prescribed from a doctor. Check out NIDA's site for teens. I think you'll find some really interesting stuff there!

<http://teens.drugabuse.gov/drug-facts>

Q: Have you ever smoked Marijuana before? I have been told that almost every adult has tried it in their teenage years?

A: Susan Weiss

Not true--NIDA's director Nora Volkow never tried it and was not even exposed to it in her school. Still many have since it was pretty commonly used, but FYI, the marijuana of the 80s and even 90s was much weaker than the stuff that's available now--so the experience might also have been quite different (like drinking beer vs. vodka). On top of that, we've only known since the early 2000s about how much the brain continues to develop in adolescence--I wonder if people who used it then would have made that same choice if they knew then what we know now.

Q: Is marijuana considered to be a good drug as well as a bad drug?

A: Ruben Baler

Like all psychoactive drugs, marijuana has many negative effects, particularly for young developing brains. On the other hand, there are definitely some compounds in marijuana (different from marijuana smoke) that have useful medical properties for the treatment of many conditions. Hope this helps.

Q: How do I quit smoking weed?

A: Nora Volkow

Seek help from a medical professional who is experienced on helping people stop taking drugs. You can also call 1-800-662-HELP, 24/7. Or you can go to <http://www.findtreatment.samhsa.gov/> to find information about treatment centers in your area.

Q: What are barbiturates?

A: Dave Thomas

They are a class of drug that depresses activity in the brain. They are used medically for some brain disorders (e.g. anxiety) but are also abused. And they can be addictive too.

Q: I'm an alcoholic - how do I start drinking again?

A: Aaron White

Hopefully, you won't! If you already have stopped drinking, it is best not to start again!

Q: Does marijuana give you long term dumbness?

A: Eric Wargo

If you use it a lot as a teen, it does.

Q: Why do people need to use drugs that are illegal?

A: Nora Volkow

Because illegal drugs can make someone feel very good temporarily. However when the drug leaves their body they feel much worse, which will cause them to want to take the drug again in order to feel good. With time this becomes worse until they lose control over their drug use and become addicted.

Q: If you don't smoke weed but you hang around people who do, can it show up in your system by second hand smoke?

A: Eric Wargo

Great question. The answer is no, unless by "hanging around" you mean packing yourselves into a cramped car with the windows rolled up and everyone else is smoking but you.

Q: Eric it seems as though everybody here loves you, as do I. Have you ever experienced a drug addiction?

A: Eric Wargo

Fortunately I've never experienced a drug addiction--except for caffeine. I'm very lucky. I've had loved ones and friends with addictions, though, so I know a lot about it. Thanks for asking.

Q: How do drugs affect an adolescent, underdeveloped brain differently than an adult, fully-developed brain?

A: Joseph Frascella

This is a great question! We are trying to figure out the answer of how drugs may affect the developing brain compared to the adult brain. We know that the adolescent brain is going through large changes, and we certainly know that drugs of abuse can affect brain processes. Drugs can have long-lasting effects if taken during development, and we do know that the earlier drugs are experimented with and taken, the greater the likelihood that addiction can occur. One study showed that teens who used marijuana a lot lost an average of 8 IQ points by the time they were adults. Thanks for asking.

Q: Can I eat weed?

A: Lis Davis

Yes. You can also eat dirt, rocks, and worms but why would you? Yuck. But if you want to know if you can eat it and feel the high, yes, pretty much like people do that eat it when its baked into brownies or candy. Often there is a time lag between when you eat it and when you feel the effects, which can cause some people to take too much and get very, very ill and feel psychotic. So--bottom line just because you can, you still shouldn't.

Q: Why are cigarettes legal while marijuana is illegal? And cigarettes have a lot of poison and known to cause cancer of the throat and lungs.

A: Joni Rutter

Great question. Money and politics have a lot to do with it. We at NIDA support the science to help make better decisions. Legalization of marijuana for adult recreational use and for medicinal purposes is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Q: People react differently to marijuana - some edgy, some happy, and some tired. Depends on your body's reaction.

A: Eric Wargo

Very true. Did you have a question?

Q: How bad is vaping?

A: Cindy Miner

Electronic cigarettes are new to the scene and we don't have a lot of scientific data on their safety or effects yet. While they may be advertised as "safer" than cigarettes, there is a lot we don't know about the health consequences of e-cigarettes. There have been a few reports of e-cigarettes exploding when people use them causing some serious injuries to their hands and faces. The bottom line....you don't know what you are getting in these products or their health consequences. One thing we do know, nicotine can alter brain development in young people---and we know the brain is still developing well into the early 20's.

So if you value your ability to think and enjoy life, I wouldn't mess around with it. For more information see:

<http://www.drugabuse.gov/publications/drugfacts/electronic-cigarettes-e-...>

Q: What would happen if I gave my cat drugs?

A: Joni Rutter

It would depend on the drug as to the effects, but the cat might lose one of its 9 lives.

Q: Is Vape bad for you?

A: Albert Avila

There's a lot of misinformation out there about e-cigs. While e-cigarettes don't produce smoke like traditional cigarettes, they contain far from harmless water vapor. E-cig aerosol contains nicotine (which is addictive) and other toxins and metals. While they may be able to help adult smokers quit, there is still SO much research that is needed to verify this. Luckily, researchers are now doing research on e-cigs to see what the health benefits or risks are. One thing I do know is that nicotine use can affect the developing brain...and not in a good way. I think until we get more evidence, the safest thing to do might be to not use e-cigs. Want to know more about e-cigarettes? Click here - <http://teens.drugabuse.gov/blog/category/265>

Q: Is it possible to have something done to the brain that takes away the fact that drugs alter the mind?

A: Joseph Frascella

Yes, your question is a great one! Treatment and drug abstinence are ways to help restore the brain processes, and normalize the brain. There is a lot more to this answer, so you might want to check out some of NIDA's sites for information, such as...<http://teens.drugabuse.gov/drug-facts/brain-and-addiction>.

Q: If you are on specific medications and you get really high, can it cause you to have a seizure?

A: Ruben Baler

Some medications could have seizures as some of their adverse effects. Medications, if properly used as prescribed should not cause a high. If they do, you should talk to your doctor. Today!

Q: What are the consequences of too much caffeine?

A: Ruben Baler

Caffeine consumed in large amounts can cause dependence and withdrawal symptoms when you try to stop, but rarely any major trouble. Energy drinks with very high caffeine contents, or mixed with alcohol, are a different and worrisome matter though, particularly for young people. Thanks for your question

Q: I would not want to do drugs because it has a bad influence on life and it's not good for people.

A: Redonna Chandler

Well said my friend!! You are fabulous!

Q: What happens if you eat crystal meth?

A: Joseph Frascella

Typically eating a drug of abuse (ingesting it orally), as compared to smoking or injecting, results in a slower onset of the effects on the brain. Ingested drugs must be absorbed into the blood through the stomach and digestive system. This is much slower than if smoking or injecting, which gets the drug into the blood and up to the brain much more quickly,

Q: If smoking or drinking is cool to your friends should you do it?

A: Redonna Chandler

Great question. No, you definitely don't need to smoke or drink just because your friends think it is cool. Dare to be different and define your coolness in activities that produce a natural high like learning to play the guitar, hiking, or rock climbing.

Q: What drugs are legal that can give you the same affect of illegal drugs?

A: Dave Thomas

Legal variations of some illegal drugs like morphine and prescription painkillers - both opioids and legally prescribed by doctors (unlike heroin, also an opioid, but illegal) - give many of the same effects of illegal drugs, although that's not why they're prescribed (you'd call the effects you're talking about 'side effects' in that case). That's why legal versions of the same class of drugs as certain illegal drugs are called "controlled substances" - they can be abused. You can find out more about drugs people use (and abuse) here: <http://easyread.drugabuse.gov/drugs-of-abuse.php> Thanks for the question!

Q: How many people have actually died for doing cocaine more than once?

A: Michelle Rankin

Hmmm - I'd like to meet the person who died more than once. One can die from the acute effects (intoxication) of cocaine because of its effects on the cardiovascular system: one can suffer heart attacks or strokes, which may cause sudden death. Cocaine-related deaths are often caused by the heart stopping (cardiac arrest) followed by an arrest of breathing. If you use a drug often, you are at increased risk of death from due to risk of HIV infection from sharing needles. Also important that if you drive, ski or skate under the influence you are increasing your chances of dying or seriously injuring yourself and/or others.

Q: Can you die from smoking marijuana?

A: Eric Wargo

Not directly, but you can get behind the wheel and have a fatal accident, and do other stupid, dangerous things.

Q: Weed don't make you do dumb things. You make you do dumb things.

A: Eric Wargo

True! But weed changes your brain (your decision-making organ).

Q: If you kiss someone who just smoked, can you get second hand smoke?

A: Cindy Miner

Ugh....why would you want to? Smoking is just not attractive.

Q: What is the easiest drug to get addicted to?

A: Bethany Deeds

Thanks for your terrific question -- Although we know what happens to the brain when someone becomes addicted, we can't predict how many times a person must use a drug before becoming addicted. A person's genetic makeup, the genes that make each of us who we are, and the environment each play a role. What we do know is that a person who uses drugs risks becoming addicted, craving the drug despite its potentially devastating consequences.

Q: Does Meth have any health benefits?

A: Dave Thomas

Not that I know of. Methamphetamine is related to amphetamine, which is used at times medically to help with weight loss, but meth isn't used medically. Meth is REAL nasty!!!! Check out this website:

<http://www.drugabuse.gov/publications/drugfacts/methamphetamine>

Q: Does marijuana kill brain cells?

A: Antonello Bonci

Marijuana can severely damage brain cells and alter behavior in people. THC, the main active ingredient in marijuana, is carried from the bloodstream to the brain and other organs of the body. Areas of the brain that control thoughts, concentration, sensory perception and coordination can be severely affected. When these areas are altered by marijuana, it can impair coordination and mental abilities. The problems can continue for a long time after the drug effects are gone. Long-term use of marijuana may have the same effect on the brain as other drugs, causing a loss of motivation and behavioral problems.

Here is a great infographic on teens and drug use:

<http://teens.drugabuse.gov/blog/post/teen-drug-use-2014-statistics-animated>

Q: When do you think drugs will stop being used?

A: Redonna Chandler

Good question - people have been using drugs across time. Unfortunately, as long as we populate the planet we will people will probably use drugs.

Q: What does cocaine do to your respiratory system?

A: Nancy Pilotte

That is an interesting angle. Cocaine is a stimulant that acts primarily in your brain and at your heart, but not directly at your respiratory system. Cocaine, like all drugs, must bind with particular proteins (primarily within dopamine neurons) in order to be effective, and your respiratory system has very few of those proteins.

However, cocaine can stop your heart! Your heart is regulated in part by dopamine and similar transmitters like noradrenalin. When cocaine hits your system, the

heart gets "flooded" with dopamine and nor epinephrine and the heart cannot keep up with the signals they send to the heart to make it beat rhythmically. The heart tries to keep up, but can't, and the constant stimulation can actually make it stop.

Q: I want to try anabolic roids - are they dangerous?

A: Ruben Baler

All I can say is: watch my video at
<https://www.youtube.com/watch?v=z9Ynf2kPNic>

Q: Is there such thing as a cocaine vapor or cocaine bong?

A: Ruben Baler

I don't think that you can inhale cocaine from a water bong like nicotine or marijuana. On the other hand, crack is a form of cocaine that has been processed to make a rock crystal (also called "freebase cocaine") that can be smoked. The crystal is heated to produce vapors that are absorbed into the blood-stream through the lungs. Hope this helps.

Q: Will drugs cause your balls to not drop?

A: Ruben Baler

I don't think so. But, do your balls drop normally?

Q: What would happen I injected marijuana?

A: Joni Rutter

What? Seriously? Marijuana is not water soluble. To be injectable, the chemicals and/or heat that would need to be used to extract it would be very bad for your blood and veins, and those chemicals would go directly to your heart and brain. NOT good.

Q: Is it any easier or more difficult to become addicted to caffeine than it is to become addicted to other drugs?

A: Joseph Frascella

Difficult question to answer specifically. There are lots of factors that affect one's vulnerabilities to specific drugs, and there is no good way (yet) to completely predict one's potential to become addicted to one drug versus another. For example, questions of how many times the drug is taken, what is the potency of the drug, what are one's previous experience with drugs, etc. You asked a great but complex question.

Q: What is the purpose of tranquilizers?

A: Dave Thomas

Tranquilizers, like benzodiazapines, are used medically to relax people who have various anxiety disorder. They are also used prior to surgical procedures. Some people also abuse them. And they can be dangerous, especially when taken with other drugs that depress or slow the nervous system, like alcohol or pain killers. The result is too often fatal.

Q: How does the chemical makeup of certain drugs affect areas of the brain?

A: Nora Volkow

Drugs affect different chemicals which in turn influence distinct brain regions. But all drugs increase the chemical dopamine which stimulates reward regions in the brain.

Q: Why isn't the drinking age 19 like it is in Canada?

A: Aaron White

Good question! The US created the 1984 law raising the minimum legal drinking age to 21 because too many young people were getting hurt by drinking alcohol. Raising it to 21 helped to significantly reduce the number of young people killed in alcohol-related car crashes. By contrast, kids drink more heavily in places like Europe and Australia, where the drinking age is lower than 21. So, raising the drinking age was a good thing. If it were raised more, it just might save more lives. But the age 21 law is working pretty well at the moment.

Q: Can steroids make me more powerful???

A: Nora Volkow

Steroids can strengthen your muscles so it will make you stronger if you work out. The problem is that they do not strengthen your heart muscle and this unbalance can result in heart failure when someone on steroids is involved in intense physical activity.

Q: What does it mean to be “buzzed” and what effects does it have on one’s body?

A: Aaron White

"Buzzed" is a term usually used to indicate that one is under the influence of a substance. This state results from changes in the way the brain is working and how those changes affect how you're feeling. You may feel more relaxed and less shy or inhibited when you're "buzzed."

Q: Why can't we just prohibit alcohol?

A: Aaron White

The US tried this about a century ago. Outlawing alcohol did reduce drinking for a time, but it also gave rise to the illegal manufacturing and distribution of alcohol. Some of this also led to alcohol poisonings and deaths. It also gave rise to organized crime involved in the underground alcohol trade.

Q: Do you approve the use of marijuana?

A: Maureen Boyle

Legalization of marijuana for adult recreational use is currently the subject of much public debate. Whatever the outcome, public health experts are worried about use increasing among adolescents, since regular marijuana use as a teen may harm the developing brain, lower IQ, and seriously impair the ability to drive safely, especially when combined with alcohol.

Marijuana for medical use has also been in the news a lot lately. There are recognized medical benefits to some of the active ingredients in marijuana. Scientists are studying these ingredients, and the body systems that they affect, in order to develop new medications for a variety of symptoms and diseases, including pain, obesity, and addiction. However, smoked marijuana is unlikely to be an ideal medication because of its negative health effects, including the risk of addiction and the damage that smoking does to the lungs.

Q: Are there any campaigns to make tobacco products illegal yet? Because if there are I'd love to be a part of it.

A: Cindy Miner

In 2010, the US Food and Drug Administration was granted the authority to regulate cigarettes, roll-your-own and smokeless tobacco the goal is to reduce the disease and death caused by use of tobacco products, not to make them illegal. In fact, the law passed by Congress says that we cannot ban tobacco products.

Q: What kind of chemical is Acid, and what does it do to your brain?

A: Nancy Pilotte

By "acid," I think you mean LSD, or lysergic acid diethylamide. This chemical interacts with neurons (brain cells) that produce the transmitter serotonin. There are many flavors of serotonin receptors (proteins that bind serotonin) in the brain, but the hallucinogens seem to prefer the only one that also regulate electrical transmission in these neurons. Oh, and it also makes some people nauseous. If you want to follow up on this, there is a lot of information about how LSD works on NIDA's teen site here:<http://teens.drugabuse.gov/drug-facts>. Check it out!

Q: How come shrooms make you hallucinate? What chemicals does it contain?

A: Ish Amarreh

Great question. Mushrooms are type of hallucinogen and many hallucinogens have chemical structures similar to those of natural neurotransmitters, the chemicals that brain cells use to communicate to each other (e.g., acetylcholine-, serotonin-, or catecholamine-like). While the exact mechanisms by which hallucinogens exert their effects remain unclear, research suggests that these drugs work, at least partially, by temporarily interfering with neurotransmitter action or by binding to their receptor sites. The main chemical in mushrooms is psilocybin (4-phosphoryloxy-N,N-dimethyltryptamine). Learn more here: <http://www.drugabuse.gov/publications/drugfacts/hallucinogens-1sd-peyote...>

Q: What is the strongest drug?

A: Antonello Bonci

Great question. It really depends on how you wish to define "strongest." Do you mean which substance is associated with the greatest numbers of death, or the effects in the brain? As for the strongest, in terms of death, that would be tobacco, which is the leading cause of preventable death in the US. But don't forget that drugs have other very serious consequences, other than death. Get the facts on drugs here: <http://teens.drugabuse.gov/drug-facts>

Q: What are the most used drugs in schools?

A: Marsha Lopez

Thanks for your question! Here's a figure from the 2014 Monitoring the Future survey showing the most commonly used substances among 8th and 12th graders. For 8th graders, that's marijuana, inhalants and synthetic marijuana (yuck!). For 12th graders it's marijuana, Adderall and synthetic marijuana.

Q: What is the average life span of a smoker?

A: Steven Grant

The short answer is that smoking increases the risk of getting diseases that can shorten your life, and smokers in general die earlier than non-smokers. But that is a difficult question to answer for an individual because how long you live if you smoke depends on a number of factors, such as when you started, how often and how long you smoke, your genetic profile, and family history of diseases. The critical point is if you or anyone you know has started smoking, then the earlier they quit the longer they may live. If you want more information about the relation between smoking, lifespan and disease, go here <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes>.

Q: If I drink alcohol as an adult, as in like a beer every other day, is it going to be bad for me?

A: Aaron White

Good question. In general, for healthy adults, up to one serving of alcohol per day (a beer, glass of wine, shot of liquor) is considered safe for women and up to two

servings per day for men. But no amount of alcohol is safe for teens. You can learn more about how much drinking may be too much at <http://rethinkingdrinking.niaaa.nih.gov/>

Q: Can marijuana kill you?

A: Wilson Compton

Great question! Not directly. Use of marijuana can impair coordination and lead to accidents that kill people. Also, sometimes people become very anxious and paranoid when they use marijuana and end up hurting themselves. Find out more on marijuana at <http://www.drugabuse.gov/drugs-abuse/emerging-trends>.

Q: What damage can one cigarette to your body?

A: Wilson Compton

It's amazing that even one cigarette damages lung health, causing asthma and coughing in many people. This is a sign of the damage it causes. Also, the nicotine from just one cigarette can start the addiction process leading to addiction in some people. Check out <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes> for more information.

Q: Is cocaine an inhalant?

A: Maureen Boyle

No, cocaine is considered a stimulant. See this link for more information: <http://teens.drugabuse.gov/drug-facts/cocaine>

Q: Can caffeine cause heart problems?

A: Maureen Boyle

Severe caffeine overdose can cause fast and erratic heartbeat, seizures, vomiting, diarrhea, and disorientation—these extreme symptoms are more often caused by using caffeine powder than from drinking too much coffee or tea or consuming too many sodas or energy drinks.

Q: What is crack made out of?

A: Dave Thomas

Crack is crystallized cocaine. It is a form of cocaine that has been processed to make it into a rock crystal that can be smoked. It is highly addictive. More information on cocaine, including crack cocaine can be found at:

<http://www.drugabuse.gov/publications/drugfacts/cocaine>

Q: Do drugs affect your mind?

A: Joni Rutter

Yes they DO. Drugs disrupt the interaction of nerve cells and the neurotransmitters that are released from them. Neurotransmitters help to control behavioral, perceptual, and regulatory systems, including mood, hunger, body temperature, sexual behavior, muscle control, and sensory perception. Other types of receptors in the brain are important for the perception of pain, responses to the environment, and learning and memory. Check out our booklet *Drugs, Brains and Behavior- The Science of Addiction* at <http://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/drug-abuse-addiction>

Q: Why do mushrooms make you see things?

A: Nancy Pilotte

The active ingredient in mushrooms is psilocybin, which is chemically similar to LSD, or lysergic acid diethylamide. This chemical interacts with neurons (brain cells) that produce the transmitter serotonin. There are many types of serotonin receptors (proteins that bind serotonin) in the brain, but the hallucinogens seem to prefer the ones that also regulate electrical transmission in these neurons. Oh, and it also makes some people nauseous (like you want to throw up). If you want to follow up on this, there is a lot of information about the health effects of drugs on NIDA's teen site here: <http://teens.drugabuse.gov/drug-facts>

Q: Do drugs kill animals?

A: Eric Wargo

Yes, absolutely. In Colorado, where marijuana is now legal, at least two dogs died from eating marijuana, and there have been lots of cases of animal poisoning from marijuana. Great question--and glad you're thinking of the animals.

Q: Are inhalants the worst drug to do for body?

A: Antonello Bonci

Great question. Inhalants are really dangerous. As for the worst drug, it really depends on how you wish to define "worst." Do you mean which substance is associated with the greatest numbers of death? At this point, that would be tobacco, which is the leading cause of preventable death in the US. But don't forget that all drugs (including inhalants) have other very serious consequences, other than death. Get the facts on drugs here: <http://teens.drugabuse.gov/drug-facts>. And, to find out more about inhalants specifically, visit: <http://www.drugabuse.gov/drugs-abuse/inhalants>. Happy reading!

Q: What is the worst drug?

A: Mary Kautz

Thanks for writing! Many illicit and licit drugs have very bad adverse (side) effects, particularly when taken in a way not prescribed by a medical doctor. It's difficult to say which one is the worst... but you can find out much more information on many drugs of abuse at <http://teens.drugabuse.gov/drug-facts>

Q: What is the difference between medical marijuana and plain marijuana?

A: Nancy Pilotte

The psychoactive component in marijuana, whether "medical" or not, is the same, delta-9-tetrahydrocannabinol. The difference between marijuana and a "medicine" is that you know how much of everything you are getting in a medicine, whereas there are no controls over what can be in a marijuana cigarette, whether it is the active compound(s) or contaminants. Aside from contaminants, the amount of THC in marijuana samples confiscated by police has been increasing steadily over the past few decades. In 2012, THC concentrations in marijuana averaged close to 15 percent, compared to around 4 percent in the 1980s. For a

new user, this may mean exposure to higher concentrations of THC, with a greater chance of an adverse or unpredictable reaction. Increases in potency may account for the rise in emergency department visits involving marijuana use. I would hate to take a chance on marijuana from the street or some stranger's garden.

Q: How come we give lots of money for cancer but there's still cancer?

A: Nora Volkow

That is a great question. Money helps a lot in research, but it's not a cure. There is still cancer, but thanks to biomedical research fewer people die of cancer now than ever before. We have learned that there are lots of different kinds of cancer even within the same organ, like lung cancer for example and different people and different cancers can now take advantage of a multitude of treatment options. You can find out more information here:

<http://www.cancer.gov/cancertopics/cancerlibrary/what-is-cancer>

Q: Do you have a chance of death every time you do heroin?

A: Nancy Pilotte

Yup. If the dose is large enough, it can stop your breathing, and failing to breathe is incompatible with life. (Don't try this at home). For more facts on various drugs:

<http://teens.drugabuse.gov/drug-facts>

Q: What are the consequences of drug use?

A: Bethany Deeds

Taking drugs can negatively impact many areas like school, work, and personal relationships. There are also a slew of medical and behavioral consequences as well. Check out the link for more information: <http://www.drugabuse.gov/related-topics/medical-consequences-drug-abuse>

Q: How does one pop a Molly?

A: Nancy Pilotte

All that means is to take methylenedioxymethamphetamine (MDMA or ecstasy). Molly is just another name for Ecstasy. And listen to other music that doesn't promote popping mollies. There is a lot of information about the health effects of drugs on NIDA's teen site here: <http://teens.drugabuse.gov/drug-facts>

Q: Why am I here?

A: Maureen Boyle

Hopefully to learn about the science of drugs and addiction!

Q: What are the top 3 diseases you get when you smoke?

A: Wilson Compton

Great health question. Tobacco causes damage to many parts of the body. The most direct are mouth and lung diseases from direct exposure to the poisons in tobacco products. But we also see damage to the kidney, bladder, heart and circulation. The Surgeon General of the United States has done full reports on the health effects of tobacco. Here's a link to a TON of information: <http://www.surgeongeneral.gov/initiatives/tobacco>. The most deaths from tobacco are from lung cancer, emphysema or chronic obstructive pulmonary disease (COPD), and myocardial infarctions (heart attacks).

Q: So, how is getting caught with drugs once get a harsher punishment than rape on campus? Or am I not allowed to ask?

A: Maureen Boyle

Of course you are allowed to ask! That is a great question with very complicated answers. This may partly be because many people don't yet understand that addiction is a brain disease. Scientific research shows that drug abuse treatment can help many drug abusing offenders change their attitudes, beliefs, and behaviors towards drug abuse, avoid relapse, and successfully remove themselves from a life of substance abuse and crime.

Q: What's coco?

A: Marsha Lopez

Coco could be any number of things. Coconut, Ice-T's wife...but perhaps you mean a term for cocaine. Coco puffs, for example, is a way of describing a tobacco or marijuana cigarette laced with cocaine.

Q: Who is this Heisenberg everybody speaks of?

A: Maureen Boyle

A character from the TV show Breaking Bad.

Q: Why do people feel the need to smoke?

A: Ish Amarreh

Thanks for your question. Most people who smoke are addicted to chemicals that are in tobacco. There is a lot we still don't know about who becomes addicted and why, and after how much exposure. We do know that each person is different, so it's a little like playing "Russian Roulette" if you choose to use any drugs. But, if you do, the earlier you stop, the more likely you will be to avoid addiction and the harmful brain changes that lead to it. Learn more here:

<http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes>

Q: How do you know if you have become addicted to a drug?

A: Maureen Boyle

Only you know for sure if you are developing a problem because of your drug use. Here are some signs: not caring about your appearance, getting worse grades, missing classes or skipping school, losing interest in favorite activities, getting in trouble in school or with the law, having more problems with family or friends.

For more information see: <http://www.drugabuse.gov/related-topics/treatment/what-to-do-if-you-have...>

Q: Can marijuana be addictive?

A: Dave Thomas

Sure, addiction is compulsive use despite harm. That happens a lot with marijuana. Here is some more information on marijuana:

<http://www.drugabuse.gov/drugs-abuse/marijuana>

Q: What is the worst drug that can enter your body?

A: Roger Little

There is no one answer to your question. Some people might be able to take a highly addicting drug and not get addicted but be susceptible to addiction from a different drug. Taking any drug is dangerous because of the potential to become addicted. You can look here for more information about addiction.

<http://www.drugabuse.gov/related-topics/addiction-science>

Q: Sometimes I look the other way for friends that don't like to stay absolutely inside the law. Is there any way of talking to them to discourage them without needing outside help or losing their friendship?

A: Harold Perl

Wow, it sounds like you are in a confusing and difficult situation. We all want to do right by our friends and we all want our friends to do well and be happy. It's usually best to be honest with your friends. Tell them how concerned you are about the things they are doing and the harm they may be causing for themselves and others. You can tell them that you are worried for them and confused about how best to help them.

You may decide that you need some outside help or advice. Can you speak to your parents or another adult that you trust regarding your concerns? If you or your friends want to look for other help you can try the SAMHSA treatment locator at 1-800-662-4357 or <https://findtreatment.samhsa.gov/>. Good luck!

Q: What can help as well get rid of all the drugs? What beneficial things would influence of killing all the drugs around the world? How bad are the drugs? What would happen if lots of people used drugs?

A: Wilson Compton

We already know that tobacco causes nearly 500,000 people to die each year in the United States and many millions more across the globe. Other drugs don't cause as many deaths, but we've seen a huge increase in deaths from overdose. Over 40,000 people die each year from overdoses related to drugs such as painkillers, heroin, cocaine, sleeping pills and other medications. This number has increased a huge amount over the past decade. We need your help to keep people off of these dangerous drugs!

Q: What is crystal meth?

A: Nancy Pilotte

Crystal meth is the same drug as methamphetamine. People use it because they think it will improve their mental focus and energy. But it revs up your heart and body temperature dangerously, and can make you paranoid, irritable, and disrupt your sleep. You can also have seizures after taking methamphetamine. And if you do it for a long time, you can have problems with thinking, memory, and emotion. You can also have very serious dental problems because it constricts blood vessels in your mouth. Smiling with no teeth is not attractive.

Q: What is LSD?

A: Nora Volkow

LSD is a drug that activates serotonergic signaling in the brain which is important for perception and mood. Thus, it can result in hallucination and other frightening experiences.

Q: Why do people don't care if they smoke near you?

A: Cindy Miner

That's a personal choice that depends on the individual. Maybe they want to annoy you. Maybe they don't know they are bothering you. Maybe they just don't care. Lots of options -- none are very considerate, though. You have a choice too, you can ask them not to smoke, and if they continue, you can move away from them. Nothing is more important than our own bodies, I'm taking care of mine by not being around people who are smoking!

Q: I like drugs - what should I do?

A: Maureen Boyle

If you want to ask about getting substance abuse or mental health treatment, call 1-800-662-HELP, 24/7. Or you can go to <http://www.findtreatment.samhsa.gov/> to find information about treatment centers in your area.

Q: Why do people smoke weed or cigs after sex?

A: Ruben Baler

Because they keep seeing that in the movies, so it must be that's what you do (?)

Q: Why do I sometimes feel the need to smoke to release stress?

A: Wilson Compton

Nicotine in tobacco becomes a habit that you learn. The chemical nicotine produces some relaxation and so stress and anxiety become cues to automatically smoke. This is a classic part of addiction as the brain adapts and develops an ingrained pattern of responding. Of course, there are healthy and safe ways to release stress--exercise, games, talking to friends, relaxation training. If stress is recurrent or severe, that's a reason to seek help! Excellent question.

Q: After the age 21, can people drive after drinking any alcohol?

A: Aaron White

Yes, after the age of 21 it is legal to drive with a blood alcohol level up to 0.08%, which represents 3 or 4 drinks in an hour or two for a typical male or female. It is important to note that even just a drink or two, which produces a blood alcohol level of around 0.02% "(well below the legal limit), increases the risk of crashes significantly.

Q: My mother's a nurse and she smokes from time to time. It can't be that bad.

A: Kevin Walton

I think that even your Mom will tell you that smoking, even done every once in a while, is not a good idea, and she most likely wouldn't want for you to start either. Why don't you discuss this with your Mom? She's a health professional, she

knows all about the effects of smoking on the body. Here are some resources - <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes>, <http://www.drugabuse.gov/publications/drugfacts/cigarettes-other-tobacco-products>

Q: How can a plant be dangerous? Why would you kill nature?

A: Ruben Baler

Plants can be dangerous. Have you heard of castor beans?

Q: Hi. I don't want to do drugs. Does that make me a good kid?

A: Michelle Rankin

Based on the scientific evidence that shows that taking drugs can have many harmful effects, it makes sense that you don't want to do them. So it does make for a good choice, at least.

Q: What are the most lethal drugs to take?

A: Michelle Rankin

Since the effects of drugs vary according to the dose taken and the person taking them, any drug can be a lethal drug. Tobacco and alcohol are the drugs responsible for the most deaths overall. Opioids come next: over half of the drug overdose deaths in 2013 were caused by opioids, which include prescription painkillers such as oxycontin and vicodin as well as heroin.

Q: Is it harder for a guy to get someone pregnant while they're high?

A: Eric Wargo

If you mean physiologically (the body's responses), then no. If he has sex with a woman, she's just as likely to get pregnant. But some drugs can make a man not want to have sex, or not perform as well even if he wants to--so that can obviously make getting pregnant harder. Great question!

Q: Is alcohol a drug?

A: Aaron White

Yes, for sure. Alcohol is the most commonly used drug on the planet.

Q: How does hookah compare to weed, in effects on the body?

A: Eric Wargo

A typical hookah just contains tobacco, which produces a mild stimulating effect on the brain--much less of an effect than marijuana, which can be more relaxing and disorienting and also make you impaired (unable to drive safely, etc.). The smoke from a hookah can harm the lungs, just like cigarette smoke can--after years, you could get cancer, etc. We still don't know enough about marijuana smoke to know if it hurts the lungs the same way.

Q: What harmful effects does LSD have on the body?

A: Joni Rutter

Acid (e.g. LSD, PCP) disrupts the interaction of nerve cells and the neurotransmitter serotonin. Distributed throughout the brain and spinal cord, the serotonin system is involved in the control of behavioral, perceptual, and regulatory systems, including mood, hunger, body temperature, sexual behavior, muscle control, and sensory perception. On the other hand, PCP acts mainly through a type of receptor in the brain that is important for the perception of pain, responses to the environment, and learning and memory. The short answer: high doses can cause panic, paranoia, feelings of despair, fear of insanity and death. Click here for more information: <http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs/health-effect...>

Q: How many brain cells can you lose doing drugs?

A: Roger Little

We don't know because this depends on how much of a drug a person takes and for how long. Also drugs can affect brain function in many other ways that don't involve actually killing cells. Drugs change the way brain cells communicate and connect with each other. And in people younger than 25 when the brain is still developing there is evidence that drugs can change the course of that normal development and brain growth. We don't know how this may affect the person over

the course of their life, even if they stop taking drug there may be changes that last.

Q: Always adults calling society rotten and blaming it on the fact that it's just the new generation...How many lives could be changed if cigarettes were abolished? It might cause a riot in these days, but if it wasn't started in the first place, imagine how many people would be better off without them?

A: Ruben Baler

I know it will be next to impossible to convince you, but we do have your best interest at heart when we try to help you make the right decisions about drugs. Your brain is developing very rapidly right now and it can ill afford to have to deal with the toxic effects of any drug of abuse. you'll be smart to believe me. best of luck to you.

Q: I just saw a study that said that people that drink every night are at a higher risk of getting a stroke! Do you contribute this to the alcohol, or to the unhealthy lifestyle that could include drinking?

A: Aaron White

Yes, there was a study suggesting that stroke risk increases for people in middle-age who drink beyond moderate levels (1 per day for women, 2 per day for men). It was a surprising finding and we do not yet know why this happens. It could be due to lifestyle factors or perhaps due directly to the alcohol. Future studies will help clarify.

Q: How can you get addicted to prescription drugs?

A: Dave Thomas

If you take them without a prescription and medical needed, you increase your chances of addiction. But even when they are prescribed to you, you should be sure to take them exactly the way the doctor prescribed them. Prescription drugs act on what are called opioid receptors in the brain. The opioid receptors in the brain respond normally to opioids that your body produces, but if you take more

prescription pain killers than your doctor prescribed, you can cause changes in the opioid receptors that leads to addiction.

For more info see: <http://www.drugabuse.gov/drugs-abuse/prescription-drugs-cold-medicines>

Q: Users of LSD and shrooms have said to have had very enlightening experiences on those drugs. Why does the government label these 2 drugs as such negative things?

A: Susan Weiss

Both LSD and shrooms can be very unpredictable in their effects on people--and in some cases, they can produce severe anxiety or hallucinations--although others report very positive experiences. They are considered Schedule I drugs because they can be abused and have no currently accepted medical use.

Q: Can you get high on things other than drugs?

A: Nancy Pilotte

- 1) Inhalants like organic solvents
- 2) Life

Here is a great info graphic on teens and drug use:

<http://teens.drugabuse.gov/blog/post/teen-drug-use-2014-statistics-animated>

Q: Does using drugs make you a bad person?

A: Kevin Walton

I don't think it's a moral question, good people can make bad choices (like using drugs) for many different reasons. Some people use drugs to try to get away from their problems, but there are many reasons you should make the choice to not use them. By not using drugs, you avoid the risk of addiction and other problems that come along with drug use. Using drugs is a little like playing Russian roulette...you never know what will happen. And the earlier a person starts, the more likely they may become addicted. If you know someone that is using drugs, encourage them to stop. Also encourage them to seek treatment or talk to someone

they trust about their drug use or any other issues, such as depression, anxiety, etc. They can call 1-800-273-TALK (8255) anytime 24/7.

Q: What is the average percent of kids in college and high school consuming drugs and or alcohol?

A: Marsha Lopez

Great question. According to the National Survey of Drug Use and Health about 60% of college-aged students (18 to 25) had used alcohol in the past month (in 2013). That number is about 11.6% for 12-17 year olds. For illegal drugs 57% of college-aged students had used in the past month, while 23% of 12 to 17 year olds had used illegal drugs. Find out more here! <http://www.drugabuse.gov/national-survey-drug-use-health>

Q: What do you do if you are very tempted to take drugs?

A: Harold Perl

Temptation can be tough to deal with. The most important thing is to try stay true to yourself and feel comfortable with who you are. It may seem sometimes that your friends' opinions matter more than your own opinions about yourself -- but THAT IS JUST NOT SO!

If the pressure starts to feel too heavy it would be good to confide in your parents, or an adult relative, or another trusted adult like a teacher or school counselor. Talk to them about YOUR feelings and you may be surprised at how much someone can help.

Here are some videos that can help you push back if peers try to convince you to take drugs: <http://teens.drugabuse.gov/interactives-and-videos/videos>
Good luck and take care!

Q: What happens if I mix all the drugs together?

A: Eric Wargo

If you mix ALL the drugs together? Probably the world would explode--or at least your city. Don't mix even a few drugs, let alone ALL of them!

Q: What percent of people have used drugs by the time they are a senior in high school? (Including alcohol)

A: Marsha Lopez

According to the 2014 Monitoring the Future survey, by the time they're seniors in high school only 25% of students **have not** tried either alcohol, tobacco, or some other illicit drug in their lifetime. This number has been gradually increasing over the years, which is good news! Similarly, about half of high school seniors report their current users of alcohol, tobacco, or other illicit drug. Here are the latest rates of teen drug use from our Monitoring the Future Survey (of 8th, 10th and 12th graders.)<http://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs>

Q: Are vape pens bad for you?

A: Eric Wargo

Great question, and unfortunately the answer is we still don't know, because they are so new. Even though they don't produce tar like cigarettes, they contain other unknown chemicals, and possibly toxic metals. And nicotine itself, which is in most of the fluids, is a highly addictive drug. One of its possible effects is making it easier to become addicted to other substances. It also might lead some people to use regular cigarettes, which are very bad for you.

Q: What percentage of high-schoolers use illegal drugs?

A: Marsha Lopez

Thanks for the question. Around **49%** of high school seniors reported having used *any* illicit drug in their lifetime in 2014. That drops to about **23%** for use in the past month. Here are the latest rates of teen drug use from our Monitoring the Future Survey (of 8th, 10th and 12th graders.)<http://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs>

Q: Is meth actually blue?

A: Joseph Frascella

No, this is one of the few drug facts that Breaking Bad has got wrong. Meth in its crystalline form is actually white or translucent.

Q: Are e-cigs with no nicotine safe?

A: Ruben Baler

With or without nicotine, e-cigs have a lot of other chemicals in them. It is still too early to tell whether or not and to what extent, e-cigs are safe or safer than regular cigarettes.

Q: What are the effects on your body from ingesting too much caffeine?

A: Ruben Baler

Caffeine consumed in large amounts can cause dependence and withdrawal symptoms when you try to stop, but rarely any major trouble. Energy drinks with very high *caffeine* contents, or mixed with alcohol, are a different and worrisome matter though, particularly for young people. Thanks for your question.

Q: Why do people feel the need to use drugs?

A: Roger Little

There are lots of reasons, some people use drugs because they are sad or depressed, others do it only because their friends are. But no matter what the reason for trying drugs, once addicted, the reason is because they feel an uncontrollable urge to use and to feel "normal."

Q: If I go through detoxification, am I immune to drugs?

A: Katia Howlett

Great Question! The process of detoxification does not provide immunity to drugs. While drugs may impact people differently, detoxification is the process of gradually removing the drug from your body, not providing an immunity to the drug. If you were to use the particular drug that you detoxified from (or any other drug) your body would still react to the drug. Check out

<http://www.drugabuse.gov/publications/drugs-brains-behavior-science-addiction/treatment-recovery> for more information on treatment and recovery.

Q: What's a safe alternative to marijuana?

A: Joseph Frascella

Hmmm, safe alternatives to marijuana? I would try learning to play the guitar or oil painting or reading a good book or going on a hike with a close friend...I think you might get the idea that there are plenty of great alternatives to altering your brain with drugs. Enjoy life and live to your fullest potential...hopefully drug free!!!

Q: Is it safe to crush up old pills and get high off of the powder?

A: Ruben Baler

It is safe to say that's a really dumb idea. I suspect you knew that though.

Q: What makes some chemicals worse than others for the body?

A: Roger Little

There are a lot of reasons for this. Partly it is due to how potent drugs are. Highly potent drugs like cocaine and amphetamine are dangerous even in small amounts and in larger amounts (that are still easy to ingest) can become life-threatening. Longer term and after someone becomes addicted the drug actually can control your behavior so that you go without food or shelter because you crave the drug so badly. There is more information you can find here:
<http://www.drugabuse.gov/publications/medical-consequences-drug-abuse/me...>

Q: Can I get addicted to caffeine?

A: Susan Weiss

Probably not in the sense of it interfering with your ability to perform critical roles in your life, but people who use a lot of caffeine do often have withdrawal headaches when they stop using--however, that is not the same as addiction.

Q: Is it true kool aid can get me addicted to prescription drugs?

A: Dave Thomas

Koolaid is sometimes mixed with drugs but koolaid itself is not addicting. Koolaid is just flavored water. But using koolaid with an abused drug is dangerous because using drugs is dangerous. Thanks for the question.

Q: Why is marijuana considered a gateway drug?

A: Ruben Baler

Great question. But it's not just marijuana, many other drugs (*nicotine* and cocaine among others) can slowly change the reward area of the brain in a way that it makes it more sensitive to the effects of other rewarding drugs. It's like these drugs arte "priming" the brain for an increased response to other drugs. Makes sense?

Q: What is the worst drug to use?

A: Bethany Deeds

Thanks for asking this question! Some can damage you slowly (I'm thinking about nicotine), some can impair you and lead to devastating accident (I'm thinking drunk driving) and others can kill you quick (meth, heroin overdose). Although we know what happens to the brain when someone becomes addicted, we can't predict how many times a person must use a drug before becoming addicted. A person's genetic makeup, the genes that make each of us who we are, and the environment each play a role. What we do know is that a person who uses drugs risks becoming addicted, craving the drug despite its potentially devastating consequences. The earlier you stop, the better off you are to avoid this addiction cycle.

Q: What happens when you take acid?

A: Nancy Pilotte

Hallucinogens like LSD produce their effects by acting on specific proteins in the central nervous system. These proteins are on brain cells (neurons) that make serotonin. In addition to altering your perception of your surroundings (and your thoughts), taking LSD often leads to recurrent flashbacks of these experiences that can last for many months after you stop using it. Most people do not find these flashbacks pleasant. For more info on the science of hallucinogens, check

out <http://www.drugabuse.gov/drugs-abuse/hallucinogens>. I hope I've answered your question!

Q: How does marijuana contribute to loss of memory and focus?

A: Roger Little

This is a complex question and you can find information here.

<http://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs/health-effect...>

I can tell you that there are receptors in your brain that bind chemicals in Marijuana and these affect how your brain functions. We don't know a lot about this but we do know that the brain is still developing in people under 25 and so may be susceptible to long term changes if it is exposed to drugs, this includes never reaching your full IQ potential.

Q: Is aspirin a drug?

A: Dave Thomas

Yup, sure is a drug. But it is not addictive. It has no psychoactive effects on the brain. But taking too many aspirin can bother your stomach and make you sick.

Q: How is tobacco made?

A: Kevin Walton

Tobacco as you might know is a plant that is grown on farms. The leaves are harvested and dried. The dried leaves are shredded and then made into cigarettes, If you are interested in learning more about smoking and tobacco, check out: <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes>. Want to learn more about the folks who regulate tobacco and are trying to keep you healthy---the FDA's Center for Tobacco Products? You can sign up for email updates here: <http://go.usa.gov/ytl>

Q: How does acid affect the brain (can use big words)?

A: Roger Little

Here is a resource with information about hallucinogens:

<http://www.drugabuse.gov/drugs-abuse/hallucinogens>

Briefly, these drugs cause a disassociation of brain function coordinating perception so that your brain has altered sensory processing. Seeing and hearing things (hallucinating) things that are not occurring around you. Many people find this experience frightening and people have different experiences. LSD is synthesized in a series of chemical reactions and there can be different chemicals in any given batch of drug that may be dangerous or toxic in their own right.

Q: How are mental health problems developed?

A: Joel Sherrill

Good question! This question has puzzled researchers for a long, long time. People used to think that MH problems were either a entirely a result of biology/genes (nature) or entirely a result of the environment and experiences (nurture). These days, the best research suggests that MH problems are a result of many factors. For some disorders, we know they run in families and have genetic components; at the same time, not everyone with an affected family inherits the same disorders, and we know that environment and experiences can also contribute to MH problems. Better information about genetic, environmental, and other risk factors will ultimately help us improve prevention and treatment. But the good news is, for many disorders, even if we don't know exactly what caused them, we have effective interventions.

Q: Can you overdose on alcohol?

A: Aaron White

Definitely. Alcohol poisoning occurs from a single episode of drinking way too much and you can potentially die from alcohol poisoning. Alcohol builds up in your bloodstream and can slow down important body processes like breathing and the gag reflex, which prevents you from choking. Even if you have stopped drinking or pass out, alcohol in the stomach and intestine can continue to enter your blood stream and circulate throughout your body.

Critical signs of alcohol poisoning include:

- Mental confusion
- Stupor

- Coma
- Vomiting
- Seizures
- Slow or irregular breathing
- Hypothermia, or low temperature
- Bluish skin color
- Paleness

If you think someone you know may be experiencing alcohol poisoning, make sure to get help immediately. You can call 911. You can learn more about alcohol poisoning and overdoses at:

<http://pubs.niaaa.nih.gov/publications/AlcoholOverdoseFactsheet/Overdose...>

Q: Why does smoking weed make everything much more funny than what it really is?

A: Ruben Baler

Great question. THC in MJ makes your brain work in a different way, memory goes down, coordination is impaired, you perceive the world through a different prism. Your inhibitions are down, and this may explain why things that would be funny when your brain has all the critical lights on, suddenly become "funny". Makes sense?

Q: Can you get high off the smell of marijuana?

A: Ruben Baler

No, you can't. But the smell could trigger cravings if you are a regular user.

Q: What's the difference between MJ and hash?

A: Ruben Baler

Marijuana refers to the dried leaves, flowers, stems, and seeds from the hemp plant *Cannabis sativa*, which contains the psychoactive (mind-altering) chemical delta-9-tetrahydrocannabinol (THC), as well as other related compounds. This plant material can also be concentrated in a resin called hashish or a sticky black liquid called *hash oil*.

Q: Why does weed make you high?

A: Joni Rutter

The compound in weed that makes you high is called THC. It acts on specific molecular targets on brain cells, called cannabinoid receptors. The highest density of cannabinoid receptors is found in parts of the brain that influence pleasure, memory, thinking, concentration, sensory and time perception, and coordinated movement. Marijuana over activates the endocannabinoid system, causing the “high” and other effects that users experience. These effects include altered perceptions and mood, impaired coordination, difficulty with thinking and problem solving, and disrupted learning and memory. Marijuana also affects brain development, and when it is used heavily by young people, its effects on thinking and memory may last a long time or even be permanent. A recent study of marijuana users who began using in adolescence revealed substantially reduced connectivity among brain areas responsible for learning and memory.

Q: Why do people come on to each other when there drunk?

A: Aaron White

That's kind of a tricky question. Alcohol impairs the frontal lobes in the brain, which are located right behind the forehead. The frontal lobes help us think about the future, make good choices and control our urges. As a result, if a drunk person has an urge, it's harder for them to resist that urge than when they're sober. This could help explain what you're describing.

Q: Why do they add tar and chemicals to cigarettes?

A: Kevin Walton

Great question! Tar is actually the residual toxin that results from the burning of the tobacco, and tar is very harmful to the lining of the lungs. Cigarette companies do add other chemical (there are over 600 chemicals in cigarettes), often claimed to add flavor, but many of the chemicals in cigarettes are carcinogens.

To learn more about tobacco products and smoking, check out: <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes>

Q: Why do people love to smoke?

A: Kevin Walton

The most addictive chemical in cigarettes is nicotine. Research shows that nicotine acts on brain reward pathways—the brain circuitry that regulates feelings of pleasure. A key brain chemical involved in mediating the desire to consume drugs is the neurotransmitter dopamine, and research has shown that nicotine increases levels of dopamine in the reward circuits. Cigarette smoking produces a rapid distribution of nicotine to the brain, with drug levels peaking within 10 seconds of inhalation. However, the acute effects of nicotine dissipate quickly, as do the feelings of reward, which causes the smoker to continue dosing to maintain the drug’s pleasurable effects and prevent withdrawal. For more information on nicotine check out NIDA's website -

<http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes> and <http://www.drugabuse.gov/sites/default/files/tobaccorrsv3.pdf>

Q: Can sniffing hand sanitizer really make you high?

A: Eric Wargo

You probably won't get high from sniffing it, but some kids try to get high by drinking it, because it contains a lot of alcohol. It's actually dangerous because the alcohol is pretty concentrated. Definitely do not try!

Q: How dangerous is it to drink alcohol while you’re taking a prescription for depression? I know it says not to on the bottle, but what happens when you do it?

A: Roger Little

There can be very dangerous interactions between some drugs and alcohol because they affect similar areas of the brain or brain functions. Our friends at the Mayo Clinic warn that mixing the two can make you feel more anxious or depressed, make you feel drowsy, slow your thinking or dampen your alertness and increase the severity of side effects. Best to ask your doctor--I know it's hard but if you ask an honest question, they can give you an honest answer.

Q: What would happen if you ate cocaine while pregnant?

A: Roger Little

Cocaine is an incredibly powerful drug. Cocaine binds to receptors in brain regions that are involved in how we experience reward. So it makes you feel good and you want to keep feeling that way, so you crave more cocaine. The more you use though the fewer of the receptors your brain makes, so you need more of the drug to get the same feeling. Eventually no matter how much drug you take you can reproduce the feeling but you can't stop the urge to take it. It is a vicious cycle. There is a lot more information here <http://www.drugabuse.gov/drugs-abuse/cocaine>. These same receptors are involved in the development of the fetal brain and may be expressed on the placenta. Interfering with these receptors during fetal development may have life-long effects for the unborn baby <http://www.drugabuse.gov/publications/research-reports/cocaine/what-are-...>

Q: Why do people think drugs are cool?

A: Harold Perl

You ask a great question. People think drugs are cool for all sorts of reasons. Sometimes they are in mental or physical pain and want to feel better. Sometimes they are looking to improve their mood. Sometimes they are just curious. Whatever the reason, drugs can be extremely harmful to take, especially when you are young and still growing. Drugs can really hurt someone's brain and body and keep them from becoming the person that they could otherwise be. Check out our website for more info: <http://easyread.drugabuse.gov/>

Q: Why are cigarettes so addictive?

A: Kevin Walton

The most addictive chemical in cigarettes is nicotine. Research shows that nicotine acts on brain reward pathways—the brain circuitry that regulates feelings of pleasure. A key brain chemical involved in mediating the desire to consume drugs is the neurotransmitter dopamine, and research has shown that nicotine increases levels of dopamine in the reward circuits. Cigarette smoking produces a rapid distribution of nicotine to the brain, with drug levels peaking within 10 seconds of inhalation. However, the acute effects of nicotine dissipate quickly, as do the feelings of reward, which causes the smoker to continue dosing to maintain the drug's pleasurable effects and prevent withdrawal. For more

information on nicotine check out NIDA's website - <http://teens.drugabuse.gov/drug-facts/tobacco-nicotine-e-cigarettes> and <http://www.drugabuse.gov/sites/default/files/tobaccorrsv3.pdf>

Q: Why do you have to eat shrooms to get the effect?

A: Nancy Pilotte

How else do you propose to get them into your body?

Q: What is huffing and what are its effects?

A: Joseph Frascella

Thanks for your question on inhalants and huffing. Huffing is when a chemically soaked rag (a form of inhalant) is held to the face or stuffed in the mouth and the substance is inhaled. Inhalants can be particularly damaging to the brain.

Q: How is crack more addicting than cocaine if they're practically the same substance?

A: Joni Rutter

Cocaine comes in two forms - powder and crack. The difference is that crack cocaine is small, white rocks that can be smoked - they get their name from the cracking sound they make when heated. Since it is in the form of smoke, it gets into the bloodstream very rapidly, and it is easy to take too much. It's thought to be the most addictive form of cocaine. A very dangerous drug, indeed. Also, powdered cocaine may be mixed with other drugs that make it a dangerous combination. Thanks for participating in Chat Day!

Q: Should I trick my parents into eating weed brownies?

A: Joni Rutter

No. You know what they say about paybacks....

Q: Does eating weed do anything if it isn't cooked?

A: Ruben Baler

Yes. You don't need to cook marijuana to get the effects of ingested THC. Try not to try it though.

Q: Does cocaine come from coca cola?

A: Michelle Rankin

Cocaine is made from the leaves of the coca plant. Coca-cola has “coca” in its name because wayyyyy long ago, when it was first sold, Coca-cola contained cocaine! The cocaine was removed from Coca-cola back in 1903, but the name stuck.

Q: While taking Lamotrigine for an epilepsy, is it okay to drink alcohol?

A: Aaron White

The person taking lamotrigine should talk to their doctor or a pharmacist to be sure. However, as both lamotrigine and alcohol can produce sedation it seems like a very risky combination. Plus, if a person has epilepsy, they should be aware the risk of a seizure increases the morning after a night of drinking. Again, a conversation with a doctor is in order here.

For more on how alcohol and medications can interact:

<http://pubs.niaaa.nih.gov/publications/Medicine/medicine.htm>

Q: Can doing drugs kill a baby before it's born? (Not including being prematurely born)

A: Nancy Pilotte

We know that drugs can affect babies before they are born. Drugs are passed from mother to fetus. These include alcohol, stimulants like cocaine, and heroin as babies are born with fetal alcohol syndrome, stimulant syndrome, and heroin dependence. We have no data on whether fetuses who die before birth did so because of drug exposure. But it does not seem fair to expose an innocent human to these drugs.

Q: What are the long term effects of marijuana use?

A: Ruben Baler

The list is long. I invite you to read all about it [here](#). Thanks for the question and good luck to you.

Q: Can taking more painkillers than the bottle prescribes hurt me?

A: Dave Thomas

YES!!! ABSOLUTELY! Taking just a pill or two extra in some cases is enough. And it happens a lot. About 17,000 Americans die each year from opioid overdoses. Be careful with opioids and NEVER take more than prescribed. If you have bad pain, get help from your doctor. You can even get help from your pharmacist.

For more info see: <http://www.drugabuse.gov/drugs-abuse/prescription-drugs-cold-medicines>

Q: Can the fumes from melting fabrics harm thought processes?

A: Ruben Baler

The fumes of anything, at high enough concentration, can and will affect your brain, your thinking process, and even threaten your life.

Q: What makes drugs addictive?

A: Dave Thomas

The simple answer is that they work in the reward center of the brain and cause the brain chemical dopamine to be more active. The drug kind of tricks your brain into thinking something good is happening. But it really isn't. If you keep using the drug, you can become addicted and the brain's dopamine will be reduced, meaning that you'll feel bad when you don't take the drug.

Q: What does dopamine mean?

A: Maureen Boyle

Dopamine is a chemical in your brain. Dopamine is released in the brain reward pathway in response to both natural rewards and drugs. It is because drugs activate these brain regions—usually more effectively and for longer periods of time than natural rewards—that they have an inherent risk of being abused.

Q: Do different drugs interact with different parts of the brain?

A: Dave Thomas

Good question. Drugs tend to go to the entire brain, but depending on the type of drug, they may have more effect in some brain areas rather than others. For example, many drugs of abuse have a big impact on the reward centers in the brain. Hallucinogens can have a big impact on the visual cortex. Opioids can not only act at the brain's reward center, but they also reduce activity in the brain stem and lead to respiratory depression and sometime death....

Q: Why is one isomer of methamphetamine more harmful than the other?

A: Ruben Baler

What a great question! The thing is, L-methamphetamine isn't really anything like the D-methamphetamine isomer that is found in street drugs. D-methamphetamine is psychoactive, while L-methamphetamine isn't very psychoactive at all. In certain receptor and enzyme pockets where D-methamphetamine fits, L-methamphetamine fits like a left foot in a right shoe. Because of this, the L-isomer only induces some of the same effects as the illicit D-isomer (like increased blood pressure, which is responsible for its efficacy against nasal congestion), while not effectively inducing others (such as the euphoria and stimulant effects). Keep up the good work!

Q: Is alcohol a stimulant or a depressant? And why does it help me dance better?

A: Aaron White

In low doses (a drink or two) alcohol often feels stimulating to people. Beyond that it tends to a depressant, meaning that it causes sleepiness and reduces activity. Why does it help you dance better? Hmm. Does it? It might just make you THINK that you dance better. But because alcohol often makes people feel less anxious and think less about the future, some people are more likely to dance or do other things they'd be embarrassed to do sober. Keep in mind though that research shows that sometime people are more likely to talk or dance simply because they expect that alcohol is making them less anxious. Some people given non-alcoholic beer, which they think is real, are more likely to flirt with people, laugh, etc, even though they didn't actually consume any alcohol at all.

Q: Which drugs can I get high off of that aren't illegal?

A: Joseph Frascella

Getting "high" usually means increasing a certain brain chemical involved in the reward center of the brain...something called dopamine. This is the same chemical triggered by other things that make you feel good: like how you feel after getting a present you really like, or after eating a really delicious meal. The best highs that aren't illegal? First, you can find things you truly enjoy in life. Look into some hobbies that let you do things you like to do. You can also exercise. Ever heard of the "runner's high?" It's the feeling you get after exercising.

Q: If adderall helps me do well on tests and learn, why is it bad if used in moderation?

A: Ruben Baler

Perhaps you have an attention deficit disorder (ADD) and you should be prescribed adderall or something similar for that deficit. If however, your dopamine system is in working order and you are boosting your dopamine beyond the optimum level, it is likely that you may be causing more harm than good to your cognitive abilities, even though you may honestly think that it all benefits. Never use a drug without a prescription. I would definitely talk to a doctor. Do the smart thing.

Q: What amount of alcohol is safe for a teen?

A: Aaron White

We simply don't know if there is a safe level of alcohol for teens, so the safest course of action is to wait until after the teen years, after the brain is done developing, to expose the brain to alcohol. The longer people wait before starting to drink, the lower the odds they'll ever develop a problem with alcohol.

Q: What do I do with old prescribed drugs?

A: Maureen Boyle

Great question! Here is a link with information about disposing of old prescription drugs in Maryland: <http://m.montgomerycountymd.gov/sws/how/medicine.html>

Feel free to reach out to NIDA if you need additional assistance:

<http://www.drugabuse.gov/about-nida/contact-us>

Q: Can medications for animals be taken by people?

A: Joni Rutter

You want to take flea medicine? If people take their animal's medications, how will the animal get better? Some medications for animals and people are the same, but they may be administered in different dosing regimens. It is never a good idea to take drugs that are not prescribed by your doctor for a specific ailment.

Q: Will taking molly boost my confidence?

A: Ruben Baler

MDMA (molly) produces feelings of increased energy, euphoria, emotional warmth and empathy toward others, and distortions in sensory and time perception. I guess that these effects could overlap in some persons with increased confidence. The adverse effects of MDMA use however, particularly during the crash phase are definitely not worth it.

Q: How are some pharmaceutical drugs that have adverse effects legal?

A: Susan Weiss

The process for getting a drug approved (legal for marketing) involves rigorous research showing it to be safe and effective in patients with a particular disease.

The medications must be shown to have greater benefits than risks for patients with the disease being treated. However, the risk/benefit ratio (as it's called) is not the same for someone who is not ill--so a pain medication like vicodin may be helpful for someone recovering from surgery, despite its risks; but for someone who is not in pain--its simply an addictive drug.

Q: Why does alcohol have a different effect on developing brains than adults?

A: Aaron White

The brain works by forming networks of brain cells that talk to each other. During adolescence, brain circuits that are important for survival are formed and nurtured while those that aren't used are discarded. Alcohol interferes with the ability of the brain to form those networks and with the ability of brain cells in those networks to

talk to each other. This is bad news for teens because, once the window of brain development closes in the early 20s, the brain circuits that exist will likely stick around. So, if the opportunity to mold and fine tune brain circuits during adolescence is wasted, it could have a huge impact on future success and quality of life. Similarly, a drinking problem that develops during the teens years can be quite stubborn due to the molding of drinking-related circuits that occurs.