

# IV Drug Abuse

## Patient Education

### The Health Dangers of IV Drug Use

Substance abuse is perpetuated in many ways. Drugs are ingested, snorted, smoked, or injected. Injected drugs are liquids put into the body with a needle and syringe. The drugs are either injected into a vein (intravenous or IV), the muscle (intramuscular) or just under the skin (subcutaneous). The World Health Organization (WHO) reports that as many as 16 million people around the world inject drugs. Injected drugs include: heroin, methamphetamines, cocaine, and prescription medications.

Unfortunately, the injecting drug user may transmit infectious diseases through syringe/needle sharing or sexual transmission. Pregnant women can transmit HIV and other infectious diseases through perinatal transmission. Preventing both the acquisition and transmission of diseases becomes paramount in providing medical care for patients with a history of IV drug use.

### IV Drug Use and Overdose

Many prescription medications are based on a *time-release* format and crushing them to dissolve and inject intravenously bypasses this built-in safety feature. When a person uses IV drugs, they are sending them directly into the bloodstream and rapidly across the blood-brain barrier. Results are often instantaneous and users feel the drug's effects almost immediately. For example, the average length of time for an IV drug to take effect is between 15 and 30 seconds, as opposed to the three to five minutes snorting the same drug takes. IV drug users therefore may *easily overdose*, taking in more drugs than the body can handle at once. Additionally, many drugs are often cut with other agents or additives, which may create a dangerous interaction in the body when crushed and injected. In fact, in most instances IV drug users have no way of knowing what substance or substances they are injecting into their bodies.

In a drug overdose, the drug reaches toxic levels, overwhelming the brain and body. Overdose symptoms will vary depending on the type and amount of drug taken, but generally include the following:

Nausea and/or vomiting	Tremors or convulsions	Unconsciousness
Drowsiness	Trouble breathing	Hallucinations
Paranoia	Irregular heart rate	Confusion
Changes in body temperature	Difference in pupil size or reactivity	Increased blood pressure
Death	Violence or hostility	Agitation

If you suspect a drug overdose, seek immediate medical attention, as it is a medical emergency. It is also helpful if you can identify the type of drug taken so that health care professionals may attempt to reverse the drug's effects. Drug overdose is the leading cause of injury death in America, killing 120 people each day, as reported by the CDC. *IV drug use increases the risk for a potentially fatal overdose.*

### Infections Transmitted Through IV Drug Abuse

Injection drug use greatly enhances the introduction of pathogens and various other contaminants into the body through needle sharing or lack of sterile preparation and injection techniques. Skin infection, bone infections, systemic bacterial infections and hepatitis B and C are just a few of the diseases caused or transmitted by IV drug use.

## *HIV*

In addition to the potential for a life-threatening overdose, IV drug abuse also increases the risks for developing several infectious diseases, including the human immunodeficiency virus, HIV, which leads to acquired immune deficiency syndrome, or AIDS for which there is currently no accepted cure. It is estimated that as many as 36 percent of cumulative AIDS cases in the United States were caused by injected drug use. Globally, WHO further estimates that one in ten new HIV cases is caused by injecting drugs. HIV is passed through the exchange of blood and/or bodily fluids, and many IV drug users share needles, helping to spread the disease.

## *Hepatitis B*

Hepatitis B is a serious liver infection caused by the hepatitis B virus (HBV). For some people, the infection becomes chronic, leading to liver failure, liver cancer, or cirrhosis, a condition that causes permanent scarring of the liver and can be transmitted via used syringes/needles. It is estimated that 1.25 million persons in the United States are chronically infected with hepatitis B, and approximately 5,000 persons have died because of chronic liver disease related to hepatitis B.

## *Hepatitis C*

Sharing IV drug paraphernalia can also lead to the transmission and spread of other diseases including hepatitis B (HBV) and hepatitis C (HCV), each of which affect the liver and may lead to liver failure, liver cancer, cirrhosis of the liver, or permanent scarring. IV drug use may account for as many as 60 percent of hepatitis C cases in the United States, according to UCSF.

Hepatitis C is transmitted via used syringes/ needles which contain the virus. This virus attacks the liver, and patients may have no symptoms. The hepatitis C virus (HCV) causes the liver to become inflamed, which interferes with its ability to function. Over time, hepatitis C infection can lead to liver cancer, liver failure or cirrhosis. The risk factor for Hepatitis C was IDU in 50% of the cases. Concurrent infection with hepatitis C and HIV is common in the United States, affecting 15% to 30% of HIV-infected individuals, and resulting in an accelerated sequelae of cirrhosis of the liver and end stage liver disease.

## *Other Infections*

Skin and soft tissue infections are common infections among injecting drug users, with *Staphylococcus aureus* being the most common bacterial pathogen for these patients. This organism can cause severe infections such as endocarditis and bacteremia. *S. aureus* is carried in the nose and on the body. Patients who are active IDUs have a higher rate of colonization with *S. aureus* than the general population. Musculoskeletal infections occur in IDU patients as the organism may travel in the blood and be “seeded” in bone, causing osteomyelitis, and septic arthritis. The only symptom may be pain in uncommon places such as the sacroiliac or sternoclavicular joint, and the vertebral spine or knee. Chronic IV drug use also creates vascular scarring, or “track marks,” which is a permanent and visible side effect of needle drug abuse.