

**Substance Abuse in Foster Children:
Heroin, Prescription Drugs, Methamphetamine & Cocaine**
Information for the CASA Volunteer
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The use of illicit drugs among American youth is approaching epidemic proportions. The 2010 National Survey on Drug Use and Health (NSDUH) prepared by the Substance Abuse and Mental Health Services Administration reports that 8.9% of adolescents and adults age 12 years or older use illicit drugs. The most disturbing trend, however, is the number of children in foster care who abuse alcohol or drugs. The February 2005 report of the NSDUH compared the rate of drug abuse among a random sample of high school students not in foster care and high school students in foster care. There was a much higher percentage of adolescents in foster care than in the general population who abused drugs, 31.6% v. 21.7% respectively. These rates have been increasing since 2005.

Risk factors for addiction in foster children

Behavioral factors

The factors that predispose adolescents to abuse drugs have been vigorously debated. In 1996 the Adverse Childhood Event (ACE) study was initiated to investigate the interrelation of childhood abuse and household dysfunction to drug and alcohol abuse and addiction in adolescents.

The results reveal that the compulsive use of alcohol and illicit drugs increases proportionally to the frequency of adverse childhood experiences. These adverse events are often concealed and unrecognized, are surprisingly common, and dramatically increase the risk of drug addiction. These events are very common among children in foster care and include:

1. Recurrent physical abuse
2. Recurrent emotional abuse
3. Contact sexual abuse
4. An alcohol and/or drug abuser in the household
5. An incarcerated household member
6. Someone in the family who is chronically depressed, mentally ill, institutionalized, or suicidal
7. Mother is treated violently
8. One or no parents
9. Emotional or physical neglect

The ACE Study uses a simple scoring method to determine the extent of exposure to childhood trauma. Exposure to one ACE category, and not just an isolated ACE incident, qualifies as one point.

The ACE Score is a sum of all points. An ACE Score of 0 would mean that the person reported no exposure to any of the categories of childhood trauma listed above. An ACE Score of 9 would mean that the person reported exposure to all of the categories of trauma listed above. A score of 4 or more is associated with a 500% increase in the risk of becoming an alcoholic and a 4000% increase in the risk of drug addiction. Children and adolescents in foster care typically have a significantly higher ACE score than children in the general population.

Physiologic factors

Both natural rewards (such as good food, pleasurable family events, playing sports) and addictive drugs stimulate the release of the neurotransmitter, dopamine, in the reward-centers of the brain. Dopamine release results in euphoria and the desire to repeat the behavior. Foster children who may have been deprived of many “natural rewards” and who experience this dopamine-induced euphoria after experimenting with drugs may repeat drug use to again experience this reward-euphoria. This sequence leads to compulsive drug seeking, to behaviors that have serious consequences, and to addiction.

Societal factors

There is a societal trend to treat behavioral problems in children, especially children in foster care, with medications instead of trying to learn more about the unwanted behaviors. A 2010 report published by Medco Health Solutions revealed that 42 % of all kids in the foster system are prescribed drugs to alter or modify their moods and many have prescriptions for 3 or more medications, including anti-anxiety drugs and anti-depressants. This practice sets the stage for drug abuse in this high-risk population.

Narcotic Addiction

Prescription drug abuse

Prescription pain killers (opiates) are the most commonly abused prescription medications. Prescription medications within this class include Oxycodone (OxyContin, Percodan, and Percocet), Hydromorphone (Dilaudid) and Hydrocodone (Vicodin).

Short- term effects and signs of addiction

Short-term administration of prescription opiates produces euphoria, sedation and a feeling of tranquility.

Indicators of abuse of prescription pain killers are:

Constricted pupils	Drowsiness
Decreased physical activity	Excessive yawning
Skin cool to touch	Itching of face, arms and body
Ptosis - “on the nod”	Lack of coordination
Slowed raspy speech	Inability to concentrate
Slowed breathing	Depression and apathy
Slowed reaction time	Impaired mental function

The signs of addiction include the following:

- Using more than the recommended amount of the medication
- Using prescription pills prescribed for others
- Complaining of vague symptoms to get more medication
- Lack of interest in treatment options other than medications
- Mood swings
- Seeing several doctors and/or pharmacies to get more pill

Long term effects

Important complications include drug interactions, progression to heroin addiction, and unintentional overdose. If the physician is not aware of everything that a person is taking he/she may prescribe a medication that will interact with the illicit drug and result in serious side effects. Vitamins and herbal remedies fall into this category.

In a recent national survey on teen drug abuse, one in 8 high school seniors admitted to using prescription painkillers they weren't prescribed. There is a strong link between prescription opiate abuse and heroin addiction. The street cost of prescription drugs is increasing while the cost of heroin is decreasing, encouraging addicts to switch to heroin. Accidental overdose with these drugs is now the leading cause of accidental death in the US. Opiate overdose may cause confusion and physical discomfort. In severe cases breathing can slow down and stop, resulting in a fatal overdose. The Center for Disease Control estimates that more than 100 people die every day from unintentional prescription drug overdoses.

Medical and Behavioral Consequences of opioid abuse

(1) Fetal exposure to opiates

About 4% of women admit taking opiates while pregnant, resulting in more than 500,000 newborns annually exposed to these drugs. Over 29% of exposed newborns are born prematurely and have a high mortality rate, either as a result of drug exposure, mother not taking care of her health or a combination of both. Methadone may be prescribed during pregnancy to facilitate withdrawal from opiate addiction and safe guard the newborn infant. Unfortunately, methadone is addictive and also results in fetal addiction and problems with newborn withdrawal.

Newborns chronically exposed to opiates during pregnancy develop withdrawal symptoms after birth (Neonatal Abstinence Syndrome). Symptoms include tremors, irritability, sleep problems, seizures, yawning, stuffy nose, sneezing, unstable temperature, poor feeding, vomiting and diarrhea. Treatment is urgent and necessary.

Naloxone (an opiate blocker) is given immediately after birth to any infant born to a mother who is known to be using opium, heroin, methadone, hydrocodone or oxycodone. However, the mother's drug history may not be known until the infant develops symptoms after birth. Symptoms may start as early as 1 day or as late as 7 days after birth. Treatment includes keeping the infant swaddled and in a quiet, dark room, but most babies need medications. Morphine elixir and phenobarbital are the most commonly used drugs and treatment may be required for several weeks.

(2) Behavioral and Developmental Problems in the child exposed to opioids during pregnancy

Maternal opiate drug addiction during pregnancy has deleterious effects on childhood behavior and development. Problems associated with fetal drug exposure include chronic irritability and agitation, hyperactivity, speech delay, "processing difficulties" (autism spectrum disorder), inability to cope and impaired motor skills. The cause of these problems is not well understood and may likely result from a combination of drug use (or poly-drug use), environmental factors associated with addiction and the level of parental attachment.

(3) Opioid withdrawal in the adolescent

Withdrawal symptoms may occur even after short-term use. The symptoms are notoriously challenging and mild symptoms may mimic the flu. The process can be brutally painful and difficult to manage. Depending on the quantity, type, frequency, and duration of opioid use, the physical withdrawal symptoms may last for as little as 48-72 hours (for short-acting opioids such as hydromorphone and oxycodone) and as long as 30-60 days for long-acting opioids such as buprenorphine and methadone.

Symptoms of withdrawal from opiates include, but are not limited to:

Physical Symptoms

Behavioral Symptoms

Tremors	Dysphoria
Cramps	Malaise
Muscle and bone pain	Cravings
Chills	Anxiety/Panic attacks
Perspiration (sweating)	Paranoia
Priapism	Insomnia
Tachycardia (rapid heart beat)	Depression
Itch	
Flu-like symptoms	

Heroin

It is estimated that there are 150,000 new heroin users each year. More and more first time users are under 21 years old. Heroin is no longer considered to be the final stop on a long road of addictive behavior, but is often one of the first drugs tried by youths. Heroin users are at high risk for addiction. It is estimated that about 23% of individuals who use heroin become addicted. After first time use, it takes only a few days of regular injection and a few weeks of regular smoking to develop a physical addiction to the drug. Once addicted the average addict spends at least \$150 to \$200 a day to maintain their habit. Within a year or less most heroin addicts spend all their time and money maintaining their addiction and avoiding withdrawal.

Heroin may be inhaled, smoked or injected and produces a "downer" effect that rapidly induces a state of relaxation and euphoria and a warm "rush" sensation. These effects are associated with chemical changes in the pleasure centers of the brain. Heroin enters the brain, where it is converted to morphine and binds to receptors known as opioid receptors. These receptors are involved in the perception of pain and in reward and play an important role in the automatic processes critical for life, such as breathing, maintaining blood pressure, and arousal.

Indicators of heroin use

Signs of heroin use/addiction are present during and after heroin consumption and include:

- Shortness of breath
- Dry mouth
- Constricted (small) pupils
- Sudden changes in behavior or actions
- Disorientation
- Cycles of hyper alertness followed by suddenly nodding off
- Droopy eyelids
- Depressed cough reflex
- Constipation

Tolerance

With regular heroin use, tolerance develops. The user's physiological and psychological response to the drug decreases and more heroin is needed to achieve the same intensity of effect. "Tolerance" to heroin leads to increases in the frequency and quantity of heroin consumption. As "tolerance" increases the symptoms of heroin addiction become more severe:

- Weight loss

- Runny nose (not explained by other illness or medical condition)
- Needle track marks
- Infections or abscesses at injection site
- For women, loss of menstrual cycle (amenorrhea)
- Cuts, bruises or scabs from skin picking

Medical complications

(1) Withdrawal

Withdrawal symptoms (cold turkey) may begin within 6 to 24 hours after discontinuation of the drug. However, this time frame can fluctuate with the degree of tolerance as well as the amount of the last dose. Withdrawal symptoms may include sweating, malaise, anxiety, depression, priapism, extra sensitivity of the genitals in females, general feeling of heaviness, cramp-like pains in the limbs, excessive yawning or sneezing, tears, runny nose, sleep difficulties (insomnia), cold sweats, chills, severe muscle and bone aches, nausea and vomiting, diarrhea, cramps, and fever.

(2) Risk of Infection

Heroin users are at risk for contracting HIV, hepatitis B and hepatitis C, and other infectious diseases, through sharing and reuse of syringes and injection paraphernalia or through unprotected sexual contact with an infected person. Injection drug users represent the highest risk group for acquiring HCV infection. An estimated 70 to 80 % of the 35,000 new HCV infections occurring in the United States each year are among intravenous drug users.

Heroin use during pregnancy and the effect on the fetus, newborn and child

Heroin abuse during pregnancy and its associated environmental factors have been associated with poor fetal growth, premature delivery, premature rupture of membranes, still birth and low birth weight (an important risk factor for developmental delay). Blood tests at birth have shown the infant's blood levels to be 50% - 100% of the mother's drug level. Using heroin also raises the baby's risk of contracting the HIV virus. Babies born to mothers using heroin while they are pregnant inherit their addiction and upon birth must go through withdrawal and treatment of withdrawal.

Low birth weight Babies born to addicted mothers have been shown to have many difficulties later in life, including:

- Language, visuo-motor, and other learning disabilities
- Behavior problems
- Children are more likely to be rejected by peers
- Performance in school may suffer and the children may need special education courses
- Behavioral problems with hyperactivity and short attention span
- The need for foster care placement

Methamphetamine Addiction

Methamphetamine addiction is gripping the Nation. There are at least 1.5 million addicted users in the US. The "Monitoring the Future" survey of student drug use reports 4.5 % of high school seniors had used meth in their lifetimes, 4.1% of 10th graders and 3.1% of 8th graders.

Methamphetamine is a very strong central nervous system stimulant that affects dopamine release in the brain. Its use fires up the central nervous system, constricts blood vessels, dilates the pupils and increases body temperature, heart rate and blood pressure. The user is put in a state of constant fight or flight. Dealing with someone high on meth is very dangerous. One hit of meth can keep the user high for 12 to 24 hours.

Methamphetamines may be smoked, snorted, injected or ingested. An intense rush (flash) appears immediately after smoking or injecting the drug. The flash is extremely pleasurable but lasts only a few minutes. Snorting or ingesting the drug results in euphoria without a flash, starting 3-5 minutes after taking the drug and lasting 15-20 minutes.

Indicators of methamphetamine use

Dry Mouth	Exaggerated reflexes and tremors
Dilated pupils	Increased alertness and self-esteem
Profuse sweating	Hyper-excitability, restlessness
Excited and talkative	Panic and anxiety
Rapid respiration	Agitation and combativeness
Loss of appetite	Paranoia, hallucinations and depression
Inability to sleep	

Drug Effects

The short-term effects of the drug are increased wakefulness and increased physical activity, decreased appetite, increased libido, rapid heart rate, increased blood pressure and hyperthermia (elevated body temperature). Death may occur as a result of hyperthermia, convulsions or cardiac arrest. Long-term effects are psychosis, paranoia, hallucinations, repetitive motor activity, loss of memory, aggressive or violent behavior, severe dental problems and weight loss. Methamphetamine has become highly associated with risky sexual behavior, increasing the risk for contracting hepatitis B or C and HIV.

Complications

The major complication of meth addiction is the devastating effect the drug has on the addict and his/her friends/family. Rarely does the addict return to being the person he/she was before exposure to meth. Meth has been associated with 2 major cardiovascular problems: heart attack and aortic dissection (tearing).

Withdrawal

The symptoms of methamphetamine withdrawal are primarily fatigue, depression and increased appetite. Symptoms may last for days with occasional use and weeks or months with chronic use. The severity is dependent on the length of time and the amount of methamphetamine used. Withdrawal symptoms may also include anxiety, irritability, headaches, agitation, excessive sleeping, vivid or lucid dreams, and suicidal ideation.

Effects on Infants and children

Methamphetamines damage the fetus resulting in permanent brain abnormalities with subsequent delay in language skills and aggressive behavior. The newborn is often premature and small for gestational age. At the time of birth there may be placental abruption and the mother is at risk of rupturing her uterus.

Cocaine

Cocaine is a powerfully addictive drug. Once having tried cocaine, an individual may have difficulty controlling the extent to which he or she will continue to use the drug. Cocaine produces intense euphoria and alertness, makes users feel more energetic, and reduces hunger. Cocaine's effects appear almost immediately after a single dose and disappear within a few minutes or hours. Psychological effects include feelings of well-being and a grandiose sense of power and ability mixed with anxiety and restlessness. Some users find that the drug helps them to perform simple physical and intellectual tasks more quickly, while others experience the opposite effect. As the drug wears off these temporary sensations of mastery are replaced by intense depression. The abuser will then "crash", becoming lethargic and typically sleeping for several days.

The duration of cocaine's immediate euphoric effects depends upon the route of administration. The faster the rate of absorption, the more intense the high, but the duration of action is shorter. The high from snorting is relatively slow in onset, but may last 15 to 30 minutes, while that from smoking may only last 5 to 10 minutes. The short-term effects of cocaine include:

Physiologic (Functional) Changes	Changes in Appearance
Increased energy	Cold sweats
Decreased appetite	Convulsions
Increased alertness	Swelling and bleeding of gums
Increased heart rate	Restlessness and anxiety
Increased blood pressure	Damaged nasal cavities
Constricted blood vessels	Vomiting
Elevated temperature	Malnutrition and weight loss
Feelings of strength & power	Dilated pupils
Euphoria	
Excitement	
Feelings of strength & power	

The long-term effects of cocaine include irritability, mood disturbances, restlessness, paranoia and auditory hallucinations. Tolerance to cocaine may develop and addicts report that they do not experience as much pleasure with repeated doses as they did from their first dose. Users can become "sensitized" to the drug and develop seizures after taking their usual dose of cocaine. "Sensitization" may explain why some deaths occur after apparently low doses of cocaine.

Medical complications of cocaine use

There are enormous medical complications associated with cocaine use. The risk of heart attack is increased by a factor of 24 during the 60 minutes after the use of cocaine, unrelated to the amount

ingested. Up to 25% of patients seen in Emergency Rooms for evaluation of chest pain have detectable amounts of cocaine in the urine. Heart attack is a known complication.

Different routes of cocaine administration can produce different adverse effects. Regularly snorting cocaine can lead to loss of sense of smell, nosebleeds, problems with swallowing, hoarseness, and an overall irritation of the nasal septum. Ingested cocaine can cause severe bowel gangrene due to reduced blood flow to the intestine. Persons who inject cocaine have puncture marks and "tracks" most commonly in their forearms and are at high risk of infection.

There is a potentially dangerous interaction between cocaine and alcohol. Taken in combination the two drugs produce a sense of increased and prolonged euphoria. However, they are converted in the body to cocaethylene. Cocaethylene has a longer duration of action and is more toxic than either drug alone and in some people may cause severe heart and liver problems.

Withdrawal

There are no visible symptoms associated with cocaine withdrawal. Users do not experience vomiting or shaking, but will have intense cravings for the drug, irritability and delayed depression. About half the cocaine addicts have an underlying mental health disorder, e.g. ADD or depression, and the symptoms of these disorders are worse with withdrawal.

Effects on the fetus

Cocaine has devastating effects on the fetus. The exposed fetus does not grow appropriately, is born prematurely and is likely to have problems related to blockage of blood vessels: stroke, intestinal perforation or blockage, limb abnormalities. Addicted mothers are at risk of rupturing their uterus at the time of delivery.

Resources:

Urban Dictionary is a nice resource that you can get as an APP on phones or access on your desktop. When you hear terminology you think may be drug related (i.e. Molly = 100% pure MDMA Ecstasy) put it in Urban Dictionary. If it is a drug it will pop up within the top 3 responses and give all details about the term.

National Registry of Evidence-Based Programs and Practices - a searchable online registry of more than 160 interventions supporting mental health promotion, substance abuse prevention, and mental health and substance abuse treatment <http://nrepp.samhsa.gov/>

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a comprehensive, integrated, public health approach to the delivery of early intervention and treatment services for persons with substance use disorders, as well as those who are at risk of developing these disorders. Primary care centers, hospital emergency rooms, trauma centers, and other community settings provide opportunities for early intervention with at-risk substance users before more severe consequences occur. <http://www.samhsa.gov/prevention/sbirt/>

The National Suicide Prevention Lifeline - 1.800.273.TALK (8255) - a free, 24-hour hotline available to anyone in suicidal crisis or emotional distress. <http://www.suicidepreventionlifeline.org/>

National Institute on Alcohol Abuse and Alcoholism/National Institute Health
www.niaaa.nih.gov

Includes reports on research being done in the field.