**Tolerance**

Drug tolerance occurs when someone abuses a substance over a long period. When someone continuously abuses a substance, their body becomes used to it, meaning the drug will stop having as much of an effect. When someone develops a tolerance to an addictive substance, they will begin taking a higher dose to get the same effects as before. Taking high doses of a substance may lead to many negative consequences.

**Dependence**

When someone abuses high doses of an addictive substance, they may develop a dependence. Drug dependence refers to someone feeling like they cannot function normally without the use of the substance. A drug dependence can be either physical or psychological and can have many negative effects on someone’s life.

**Addiction**

Drug addiction affects someone’s mind and behavior. Addiction refers to the inability to control the use of drugs or alcohol. Those who struggle with addiction may try to stop using the substance but will feel like they cannot stop even though they may be experiencing negative consequences from it. Those struggling with addiction must receive the proper help and support needed to stop.

**How it affects the Brain**

Long-term use of drugs combined with the development of tolerance, dependence, or addiction can negatively affect the brain. Long-term drug abuse will interfere with how neurotransmitters in the brain send, receive, and process signals. This abuse can affect a person’s behaviors and their ability to think clearly and quickly.  
  
Substance abuse also affects the brain’s natural production of dopamine. Dopamine is a chemical associated with feelings of pleasure. Taking addictive substances causes the brain to release large amounts of dopamine, which is why taking these drugs creates a euphoric high. Over time, the brain will rely on the drug for dopamine production. If the drug is not consumed, the person will begin to feel run down and like they cannot function normally. This feeling often results in cravings for the drug and can even lead to erratic behavior.

**What is Tolerance?**

Drug tolerance refers to the body getting used to a substance over time. When someone develops a tolerance, they need to take a higher dose to experience the same effects.

**Causes of Tolerance**

The main cause of drug tolerance is abusing an addictive substance for a long time. Usually, tolerance occurs because the body starts to metabolize the drug quicker, leading to it having less effect than it did before. When the body gets used to consuming a substance, the number of cell receptors the drug attaches to the brain will decrease, leading to someone feeling like they must take a higher dose to experience the same “high” they used to receive.[4](https://greenhillrecovery.com/difference-between-tolerance-dependence-addiction/#Resources)

Examples of Tolerance

An example of drug tolerance would be someone taking a prescription drug, such as an opioid painkiller, that produces a pleasurable “high” when taken in large doses. Over time, as that person continues taking the prescription drug, the high that is produced will slowly decrease.  
For this person to continue feeling that same high, they will have to take higher and higher doses of that prescription drug. When someone takes increasingly higher doses, they may develop a physical or psychological dependence or addiction, and they will have a higher risk of overdose.

Signs and Symptoms

Common side effects and signs of drug tolerance may include:[5](https://greenhillrecovery.com/difference-between-tolerance-dependence-addiction/#Resources)

* Aggression
* Anxiety
* Consuming large amounts of drugs or alcohol
* Decreased appetite
* Depressed mood
* Drug cravings
* Irritability
* Nausea
* Trouble sleeping

If you or someone you know is experiencing any of these signs, proper help and support may be required to get drug use under control. There are resources available that can help.

Risks of Tolerance

Common risks associated with drug tolerance include:

* Addiction
* Chronic pain
* Cross-tolerance, meaning tolerance to chemically similar substances
* Immune-related conditions
* Mental health conditions
* Overdose
* Physical or psychological dependence
* Seizure disorders

All of these risks can be serious, and why proper treatment and support are critical for anyone struggling with substance abuse.

**What is Dependence?**

Drug dependence refers to someone feeling like they cannot function normally without taking a substance. Dependence can be physical or psychological and can have many negative effects on someone’s life.

Causes

The main cause of drug dependence is long-term abuse of an addictive substance. Oftentimes, when someone has developed a dependence, they first started using the drug recreationally. Recreational use then turns into regular abuse of the substance, the development of tolerance, and taking increasingly higher doses. After these stages, a person’s mind and body will feel a need to continue taking that substance to feel like they are functioning normally.

Examples of Dependence

An example of drug dependence would be someone who smokes cigarettes regularly for some time. Nicotine is an addictive substance that can make someone develop a physical and psychological dependence over time. When someone decides to suddenly stop smoking after they’ve consumed nicotine regularly, they will experience physical dependence symptoms, such as shaking hands, physical cravings, and fatigue.  
  
A person may also experience psychological dependence symptoms, such as feeling like smoking puts them in a calmer mood or helps them get through the day. Both of these forms of dependence can lead to relapse and make it difficult for someone to quit.

Signs and Symptoms

Common signs of drug dependence are:

* Aching muscles
* Anxiety
* Depression
* Detachment from reality
* Difficulty concentrating
* Hallucinations or delusions
* Increased heart rate
* Nausea
* Shaking
* Sweating

If someone is experiencing symptoms of dependence, proper help and support will be necessary.

**Difference between Dependence and Tolerance**

The main difference between tolerance and dependence is that tolerance refers to the body getting used to taking a substance and requiring higher doses. Dependence, however, refers to the physical or psychological symptoms that occur that make someone feel like they must continue taking a substance. Oftentimes, dependence and tolerance can go together. When someone develops a tolerance, they will likely develop a dependence with continued use.

What Can Dependence Lead To?

The main risk of drug dependence is that it could lead to the development of an addiction. Other risks of dependence include:

* Changes in the brain’s chemical structure
* Developing a tolerance
* Impaired judgment
* Long-term health risks
* Overdose

All of these risks are serious, and proper support is necessary for those struggling with drug dependence.

**What is Addiction?**

Drug addiction is characterized by an inability to stop or control the use of substances despite experiencing negative consequences.

Types of Addiction

Experts recognize two main types of addiction: chemical and behavioral. Chemical addiction refers to addiction that involves the use of substances. Behavioral addiction involves compulsive behaviors that are carried out despite not having any benefit.

Signs and Symptoms

Common signs of drug addiction may include:

* Development of a tolerance
* Feeling withdrawn from daily activities
* Inability to stop using a substance
* Strong cravings for drugs or alcohol
* Trouble managing daily responsibilities
* Using substances in risky situations (while driving, working, etc.)
* Withdrawal symptoms when you try to quit

Addiction is serious and requires proper help and support to recover. If you or someone you know is struggling with any of these symptoms, there are resources available that can help.

Dangers of Addiction

Common dangers associated with drug addiction include:

* Altering brain chemistry
* Financial problems
* Irrational behavior
* Legal trouble
* Long-term physical health issues
* Mental health issues
* Overdose
* Relationship difficulties

**Difference between Tolerance and Addiction**

The main difference between tolerance and addiction is that tolerance refers to the body getting used to using a substance and addiction refers to someone being unable to control their use of a substance. Oftentimes, tolerance and addiction can go hand in hand, as one can lead to the other.