# Addiction & the Brain



#### A brain addicted









# The Science

Our brain typically experiences pleasure from all sorts of things in life - eating cake, having a good workout, or falling in love.



The brain tells us something is pleasurable by releasing a messenger called dopamine.

Addictive drugs provide a shortcut to the brain's pleasure system and flood the brain with dopamine. They can release 2 to 10 times the amount of dopamine that natural rewards do.



Over time, the brain gets use to the amount of dopamine and it stops having the same effect. The brain craves more of the drug to try and have that same good feeling as before. The person has to continue taking more and more of the drug to try and satisfy the brain's craving.

Addiction is similar to other chronic diseases in the following ways:

- It is preventable -

- It is treatable -
- It changes biology If untreated, it can last a lifetime -

### The Brain Can Recover!

The brain can recover from addiction over a period of time! The brain on the left is a healthy brain. The brain in the middle is 1 month after someone stopped using meth. The brain on the right is after 14 months of stopping use - and looks almost identical to the healthy brain!

#### BRAIN RECOVERY WITH PROLONGED ABSTINENCE



HEALTHY CONTROL

PATIENT WITH METHAMPHETAMINE USE DISORDER

1 MONTH OF ABSTINENCE 14 MONTHS OF ABSTINENCE

Addiction does change how a brain functions. But it can recover after drug misuse ceases.

Because the brain has been altered, deciding to stop is not as simple as just saying no. Returning to a substance after trying to stop is common, but do not give up hope, recovery is possible!

### Pathways to Recovery

There is no one way that someone finds recovery. There are many different pathways that one can take.

### **Clinical Pathway**

Recovery processes aided by the services of a healthcare provider, clinician, or other credentialed professional.

#### **Non-Clinical Pathway**

Recovery processes involving community-based or peer support services.

#### **Self Management Pathway**

Recovery processes that involve no formal services.

#### **A Mixed Pathway**

Sometimes utilizing services from all pathways is the best option!

To read more about the pathways and the treatment options they entail, visit <u>recoveryanswers.org/recovery-</u><u>101/pathways-to-recovery/</u>

### **Recovery is Possible!**

Note: The provided resources are given as a convenience in finding local or national resources. The Hamilton County Health Department does not endorse, warrant, or guarantee any particular service or organization. We do encourage you to get your information from evidence-based resources. Source: https://www.recoveryanswers.org/