

# Depression

- What exactly is Depression and its evolution to treatment
- Chemical changes of Depression
- Anything that the public isn't aware of that we don't hear about everyday

# What Exactly is Depression and its Evolution to Treatment

Feeling sad, miserable, or unhappy for a  
sort period of time

True clinical disorder where you feel  
sadness, loss, anger and frustration  
effects you from your everyday life.

Depression is a lost cause

**Scientists say :** “Caused by chemical changes in brain”

**I respond :** “What chemical changes and why does this happen and cause Depression specifically?”

Maybe due to problems within your genes, or triggered by stressful events that have happened.



Depression can run in the family but  
also if you have no family history of  
illness

# Playing Roles In Depression?

- Alcohol abuse
- Drug abuse
- Cancer..anything long-term
- Steroids
- Sleeping problems
- Life events:
  - A break up
  - Failing a class
  - Death or illness of someone close to you
  - Divorce
  - Childhood abuse
  - Neglect
  - Job loss
  - Social isolation

People who are depressed see things  
with a more than usual negative attitude  
and not being able to see a situation  
solved

# Symptoms

- Restlessness, irritability, agony
- Dramatic changes in appetite, weight loss or gain
- Difficulty concentrating
- Fatigue or lack of energy
- Feeling hopeless or helplessness
- Feeling worthless, self-hate, guilt
- Anti-social
- Loss of interest or pleasure in activities that once enjoyed
- Thoughts of death or suicide
- Trouble sleeping or a lot of sleeping

# Treatment

- Medications called antidepressants  
Talk therapy, called psychotherapy

# Prevention

- More exercise
- Good persistent sleeping habits
- Find activities that brings you pleasure
- Involve yourself in group activities
- Talk to someone you trust about your feelings
- Surround yourself with positive people

- ✓ What exactly is Depression and its evolution to treatment
  - Chemical changes of Depression
  - Anything that the public isn't aware of that we don't hear about everyday

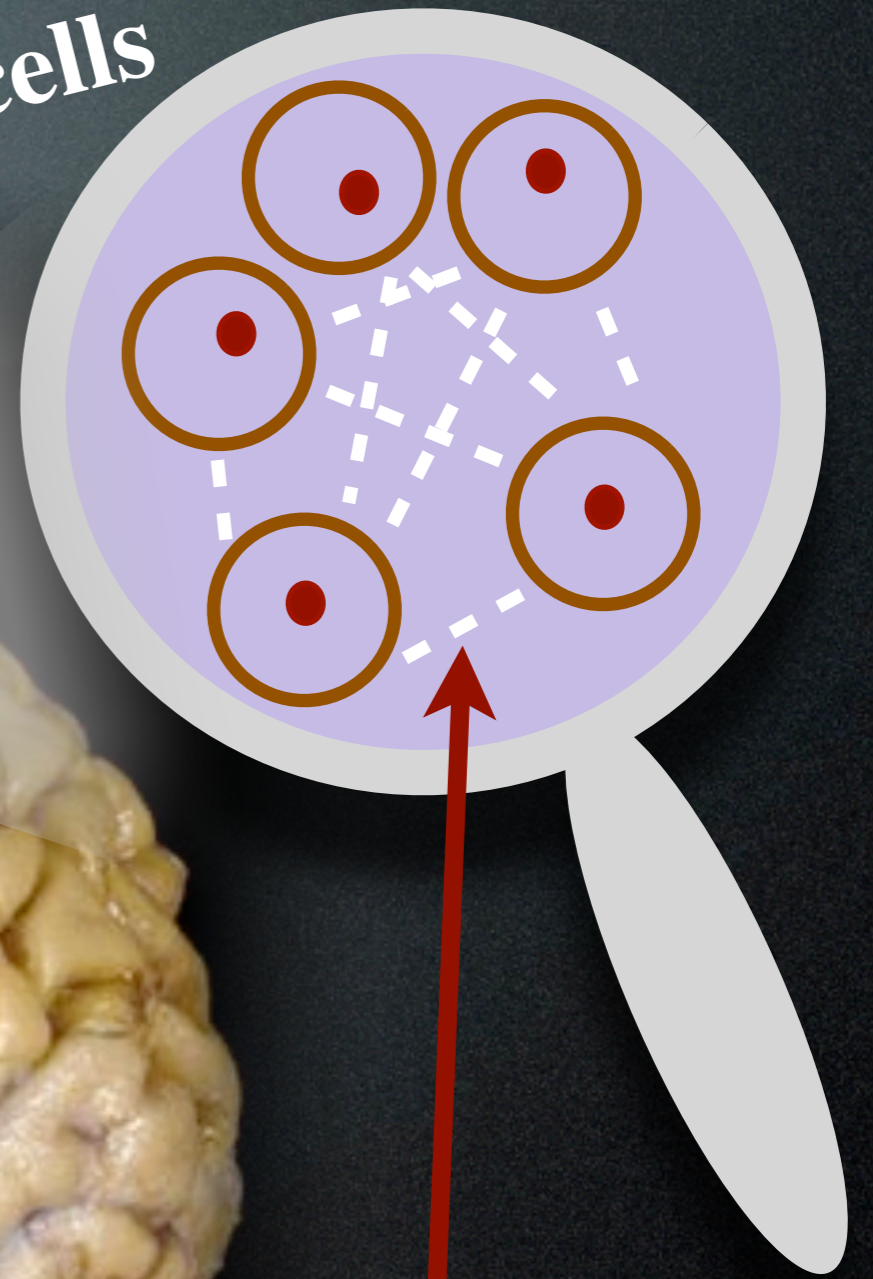
# Chemical Changes of Depression



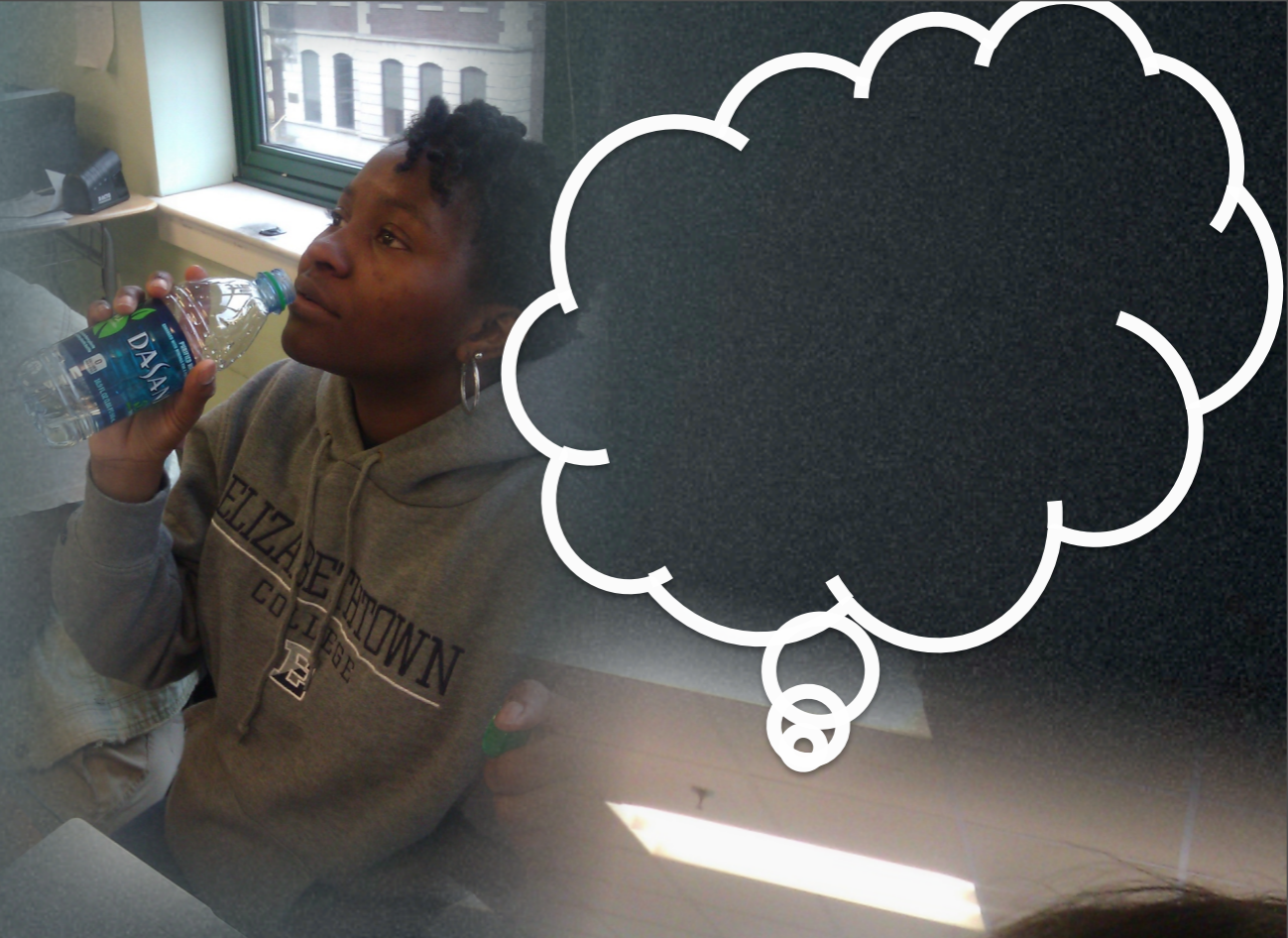
**10 million cells in brain**



25,000 connections with neighboring cells



Electrical impulses travel down **neurons** at about 120 mph

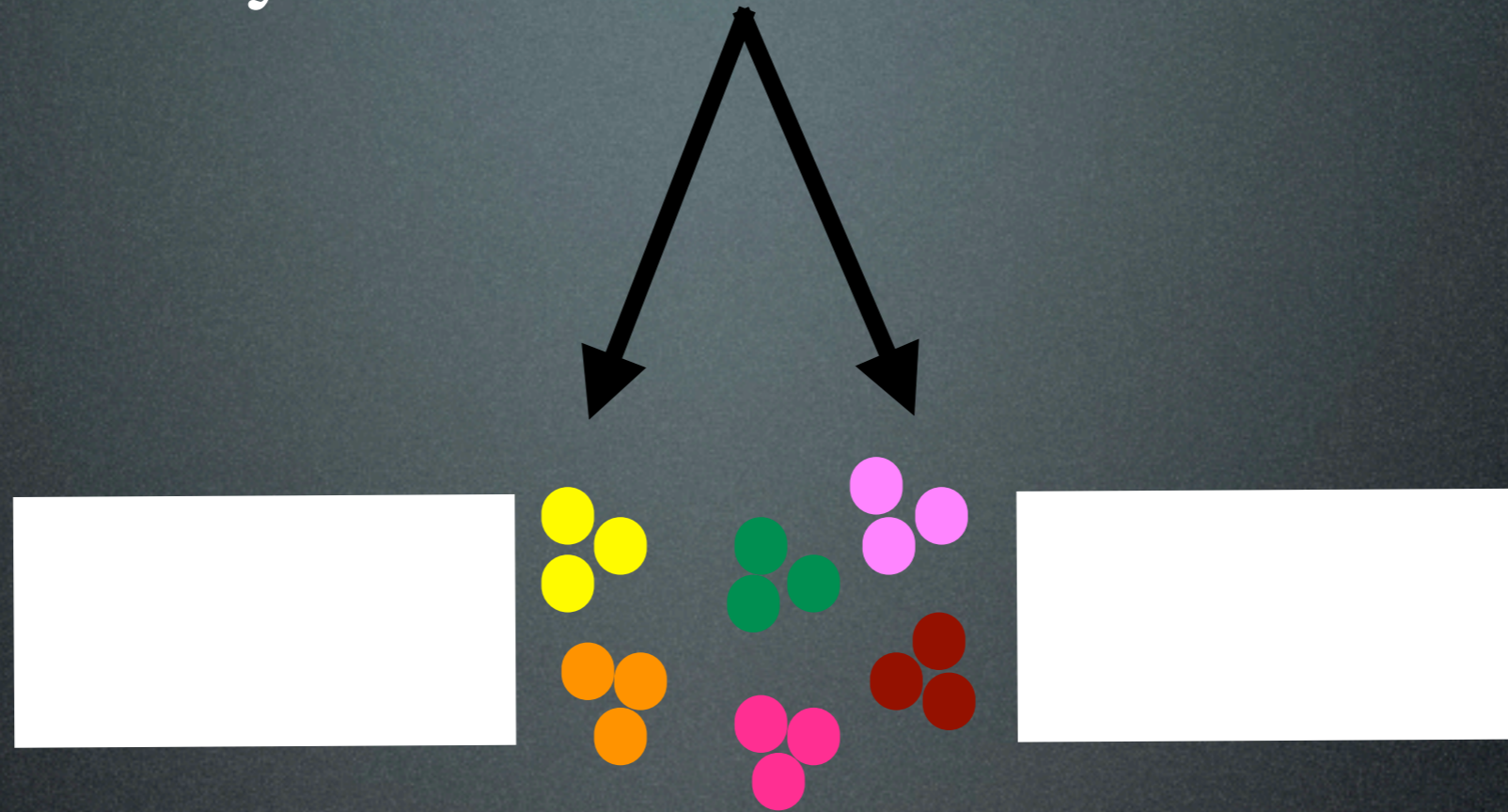


A diagram illustrating a synapse. A horizontal dashed white line represents an axon, passing through a central black circle representing the synaptic terminal. Two white rectangular blocks are positioned on the dashed line within the black circle. To the right of the black circle, a red circle represents the postsynaptic cell. The entire diagram is set against a dark grey background with two large, thick, curved orange lines on either side.

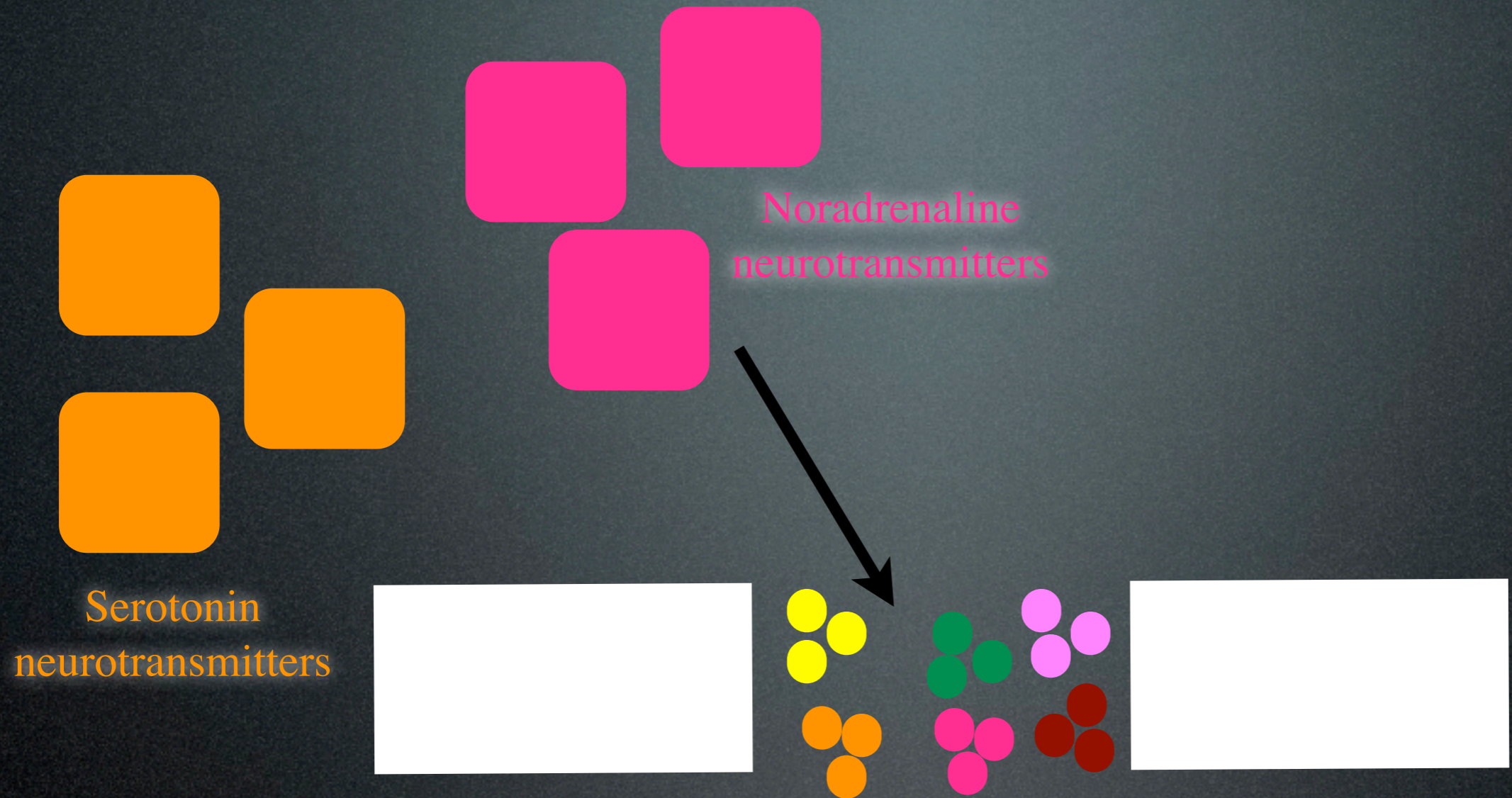
Synapses

Thank you Synapses for  
electricity activity and for  
allowing the brain  
functioning to be controlled.

# Enzymes called Neurotransmitters



Neurotransmitters must come into play for a message to cross one neuron, across the other synapses and to the next neuron. Each group of neurotransmitters are for a specific brain cell



D E P R E S S I O N



From observing this simulation of neurotransmitters, the assumed cause of low moods, low energy, slow drive ( symptoms of Depression) is because of ?



Lack of Serotonin and Noradrenaline



- ✓ What exactly is Depression and its evolution to treatment
- ✓ Chemical changes of Depression
- Anything that the public isn't aware of that we don't hear about everyday

Doctors believe that Depression is a deficiency in low levels of brain chemicals.

Diabetes --> caused by insufficient insulin

...

Depression --> insufficient production of serotonin or Noradrenaline

Therefore it can be inherited

Environment

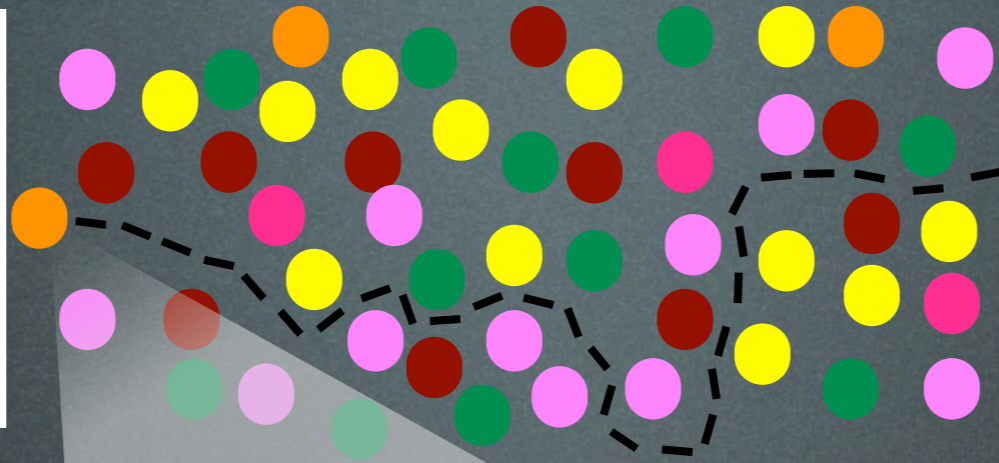
A diagram with a dark blue background. In the center is a white text block. Four white arrows point towards this central text from the corners: 'Environment' from the top-left, 'Nutrition' from the top-right, 'Lifestyle' from the bottom-left, and 'Life Experience' from the bottom-right.

Nutrition

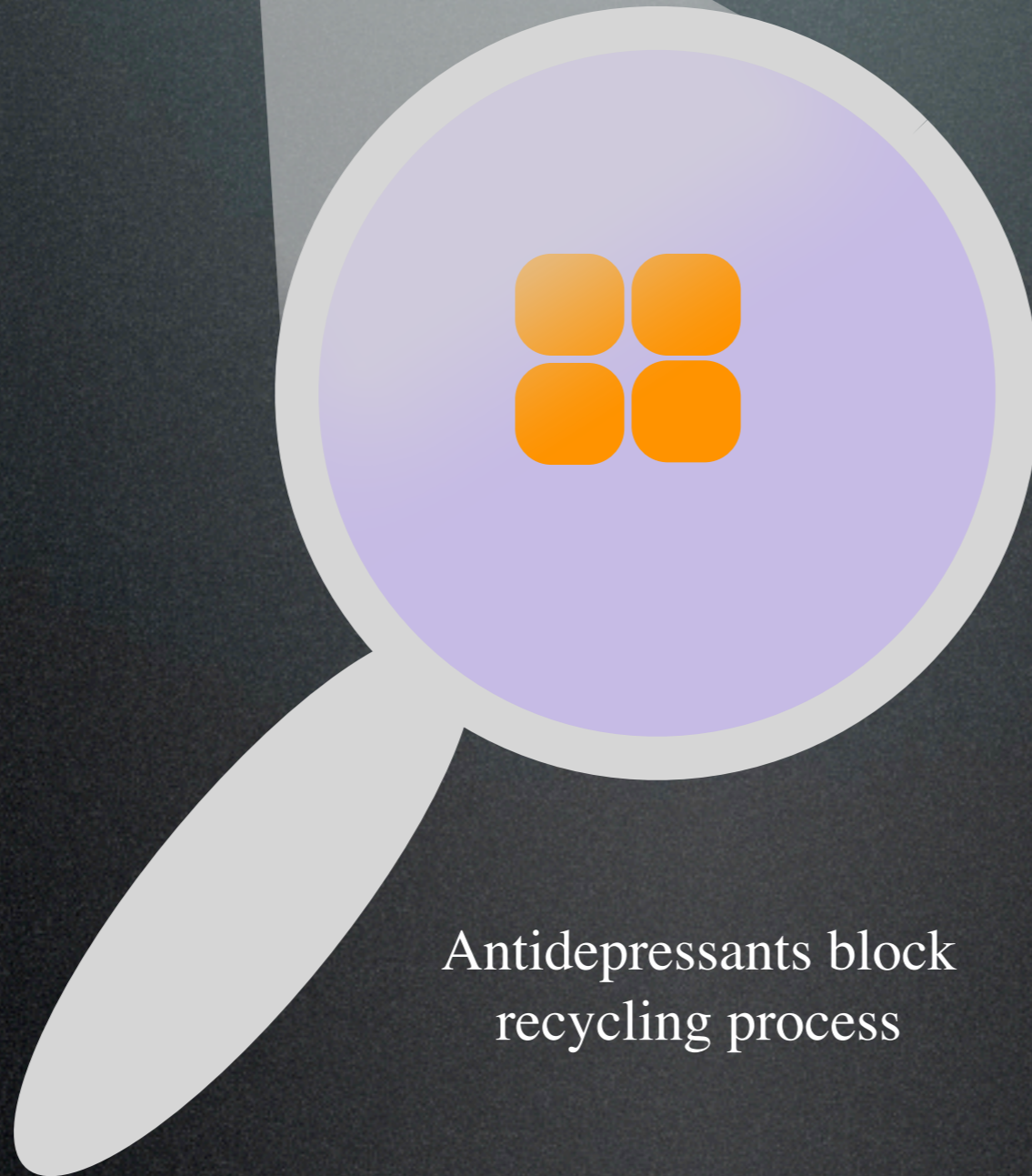
Since stress or hormonal changes can affect neurotransmitter levels, doctors assume that Depression is all a biological disease that depends on the deficiency production of neurotransmitters.

Lifestyle

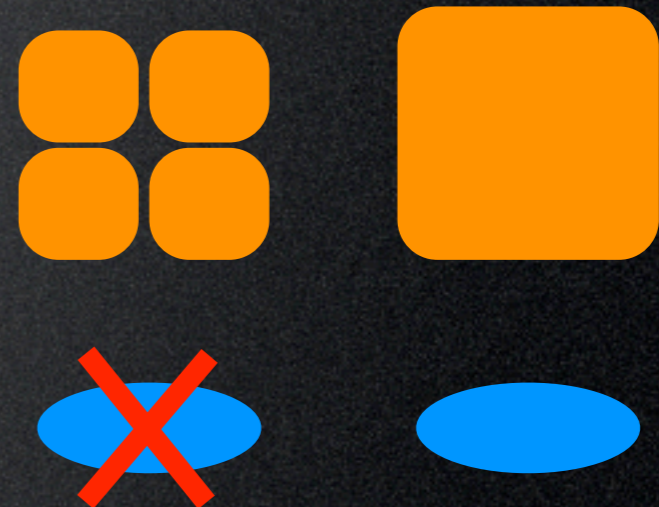
Life Experience



Broken down by enzymes  
and removed or taken  
back into nerve ending  
and recycled for future  
uses (re-uptake)



Antidepressants block  
recycling process



- ✓ What exactly is Depression and its evolution to treatment
- ✓ Chemical changes of Depression
- ✓ Anything that the public isn't aware of that we don't hear about everyday