# YOUR BRAIN ON EXERCISE

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Counterpunch Parkinson's

# OVERVIEW

- Understand in basic terms how exercise influences brain health
- Understand three key concepts – neuroprotection, neuroplasticity and neurogenesis
- Be able to differentiate these concepts from "neurogobbledibollocks"
- Have an introduction to exercise recommendations and potential benefits for a broad range of people

# The 10


Home / Archive / November 2018 / Features
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How Exercise May Help the Brain Grow Stronger
JUNE 15, 2016 5:31 AM
Comment
BY GRETCHEN REYNOLDS
ers brain cell growth and
emory, scientists prove

# EXERCISE AND BRAIN HEALTH

Generally when we talk about how exercise benefits tissues in the body we are talking about things like:

- Circulation / blood flow
- Lymphatic drainage
- Strength
- Flexibility
- Managing inflammation
- Rebalancing

These concepts all apply to brain health too …

You take care of *your body*. Why not take care of this as well?

# BUT WAIT… THERE IS MUCH MORE

Exercise influences many more key aspects of brain health including:

- Immune response
- Cognitive function
- Memory
- Mental and emotional health
- **Resilience of brain tissue**
- **Growth and repair of brain tissue**
- **Neuroplasticity**

# EXERCISE PROMOTES **NEUROGENESIS**

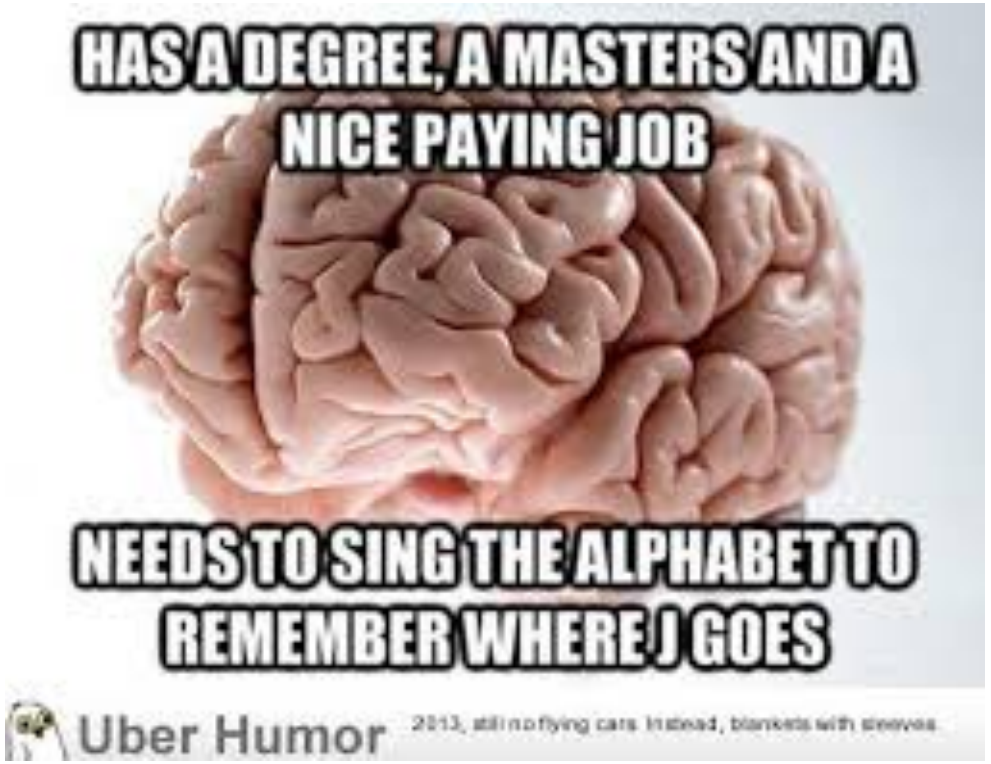

**Exercise promotes neurogenesis**

Exercise can enhance the brain's ability to grow and repair damaged tissue, and minimizes the effects of damaging inflammation stemming from injured tissue

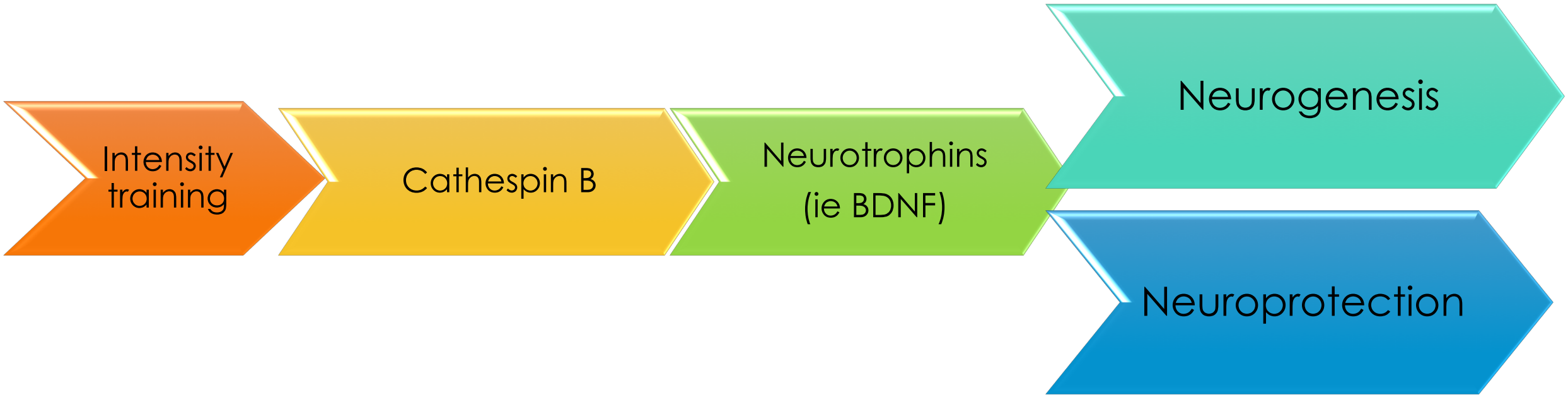
# EXERCISE IS **NEUROPROTECTIVE**

**Exercise is neuroprotective.**

Exercise can influence the brain's ability to push back and resist degenerative disease processes including multiple sclerosis, Parkinson's, and Alzheimer's



# EXERCISE AND BRAIN CHEMISTRY

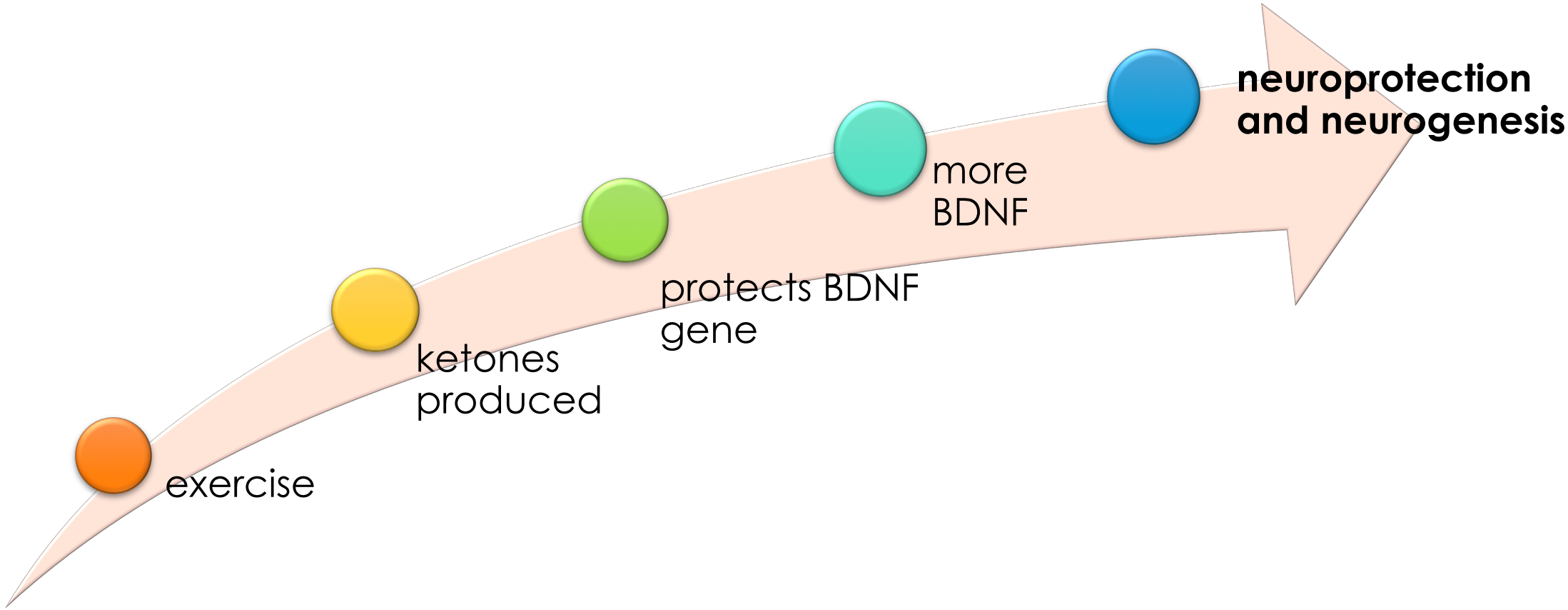


# EXERCISE INFLUENCES CELL BEHAVIOR AT DNA LEVEL

Being sedentary…

Can lead to genes for BDNF production to get muted or gunked up

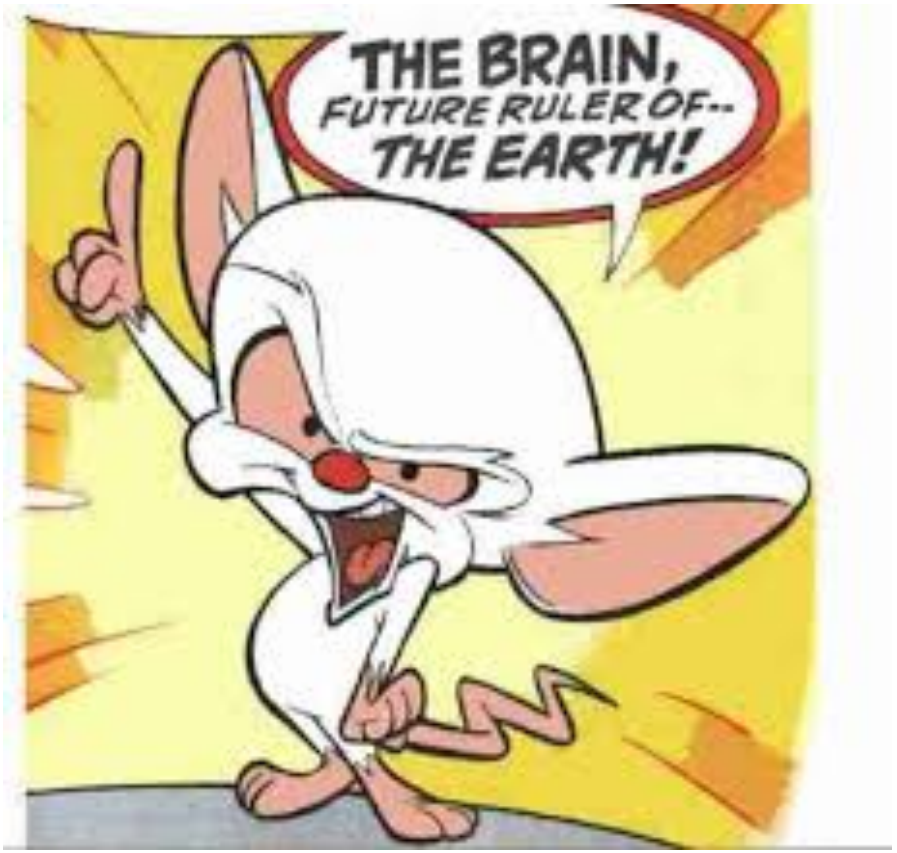
# EXERCISE INFLUENCES CELL BEHAVIOR AT DNA LEVEL



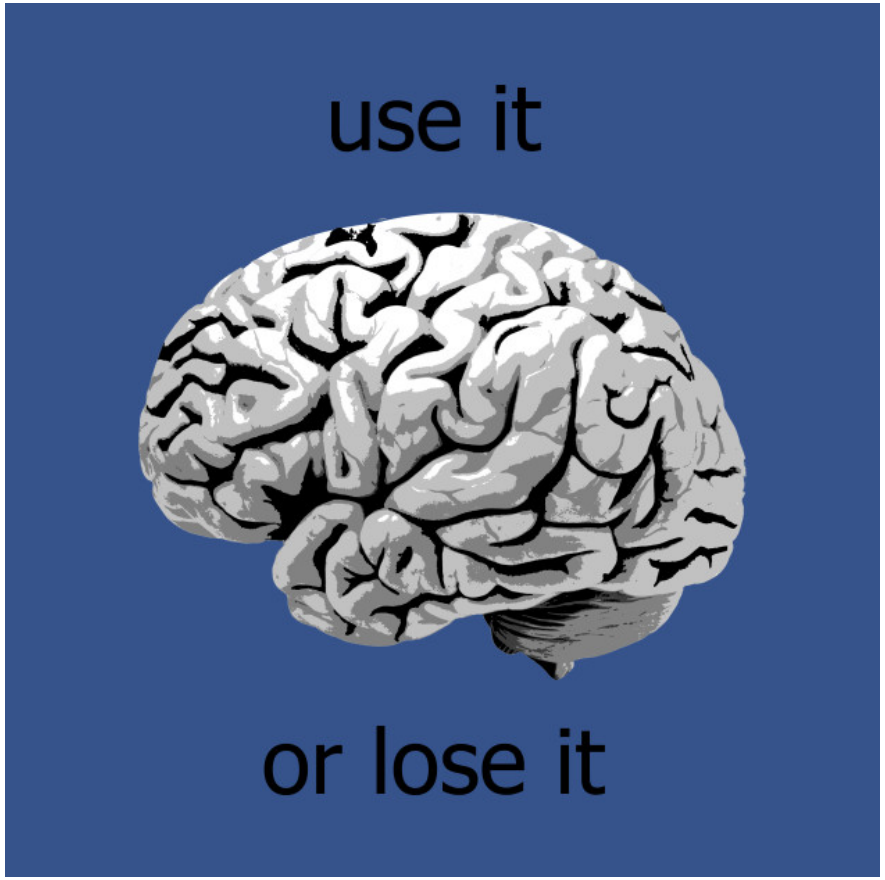
# EXERCISE AND **NEUROPLASTICITY**

## Exercise encourages neuroplasticity

Neuroplasticity is about the brain's ability to create new pathways, to re-route around areas of damage, to re-wire, and to shift the function of certain cells in response to demand, repetition, and environment.

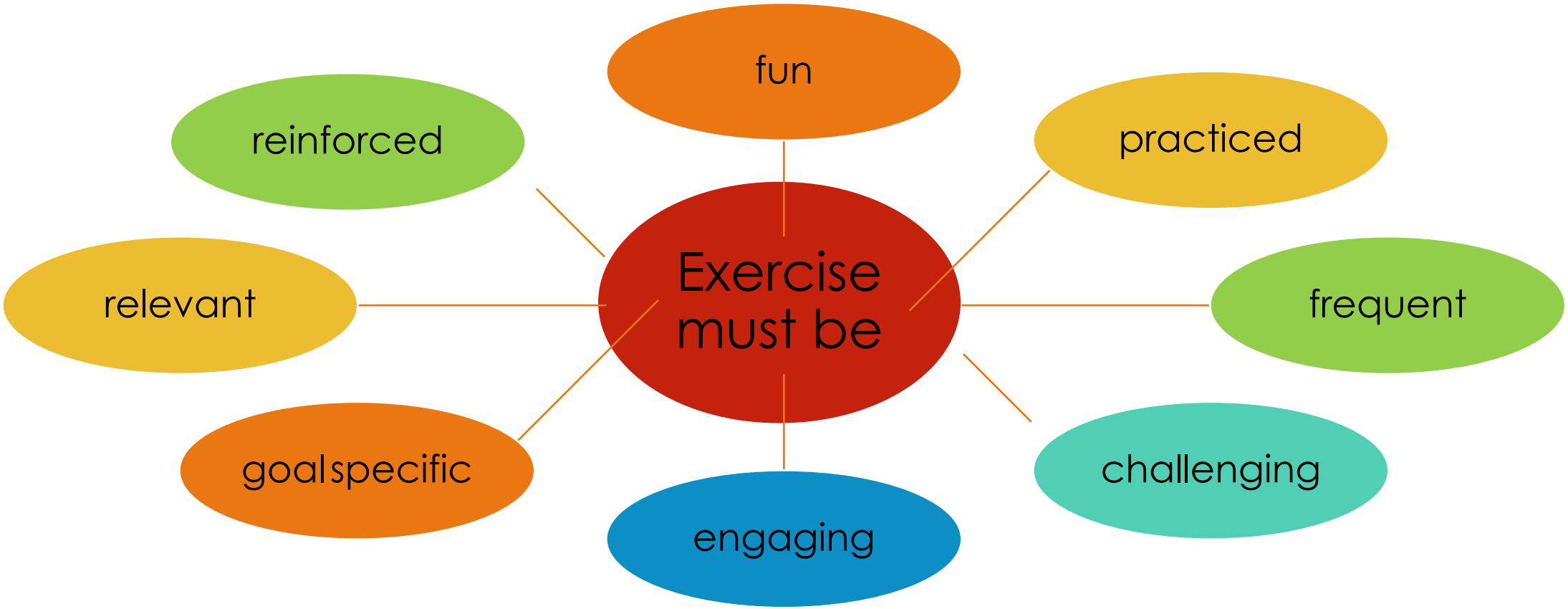


# NEUROPLASTICITY CATCH PHRASES




Cells that fire together wire together

# CONDITIONS FOR NEUROPLASTICITY



# RECIPE FOR BRAIN HEALTH

In addition to various types of exercise, done regularly and on most days, you will need the following basic ingredients:

- Sleep
- Nutrition
- Hydration
- Stress management
- Meditation / relaxation
- Stimulation
- Challenge / Continued learning
- Social interaction
- Love

# REFERENCES


- exercise and the brain
- exercise triggers cell growth and improves memory
- the 10 fundamentals of rewiring your brain
- exercise may help the brain grow stronger
- leg exercise is critical to brain and nervous system health
- how exercise reprograms the brain
- exercise prompts neurogenesis and prevents cognitive decline ...
- how much exercise is needed to help improve thinking skills
- walking just 35 minutes a day could lesson severity of strokes
- does this exercise protein boost your brain power
- exercise can raise BDNF levels and alleviate depression in Parkinsons's

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