



BENGREENFIELDFITNESS

UNBEATABLE BRAIN 2.0

Two new ways to Enhance Your Brain &
Hack Cognitive Performance



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1

**NEUROTRANSMITTERS
& HPA AXIS**

2

**THE BLOOD BRAIN
BARRIER**

3

NEUROPLASTICITY

THE TWO WAYS YOUR BRAIN BREAKS

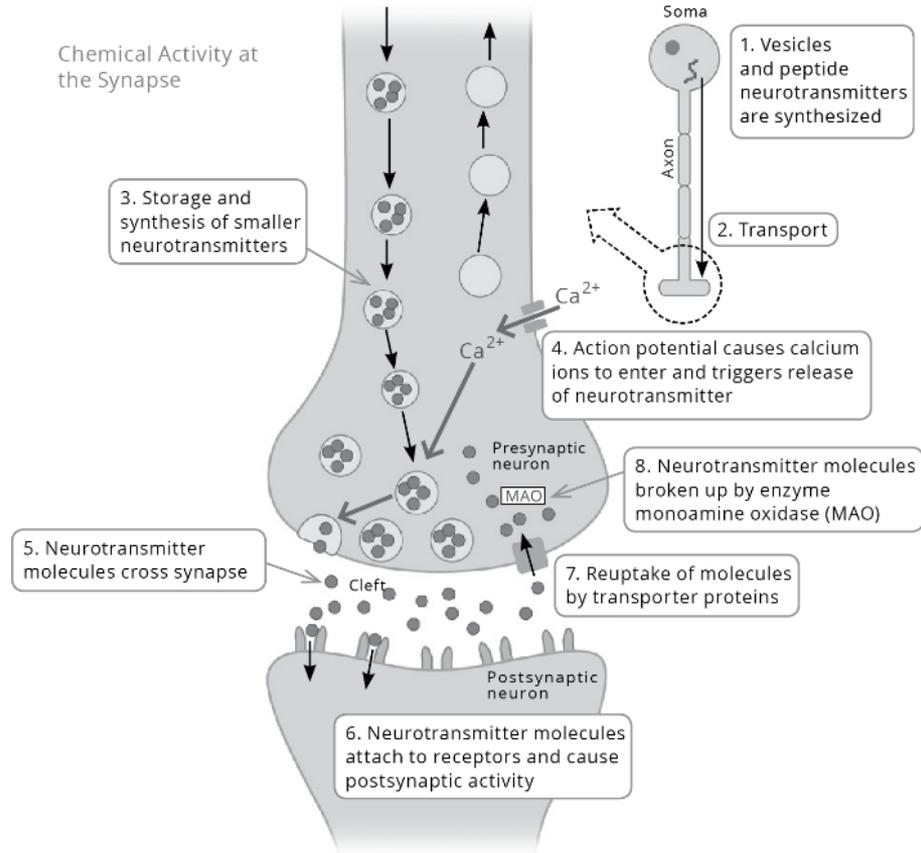
**NEUROTRANSMITTER
PROBLEMS**



**HPA AXIS
DYSFUNCTION**

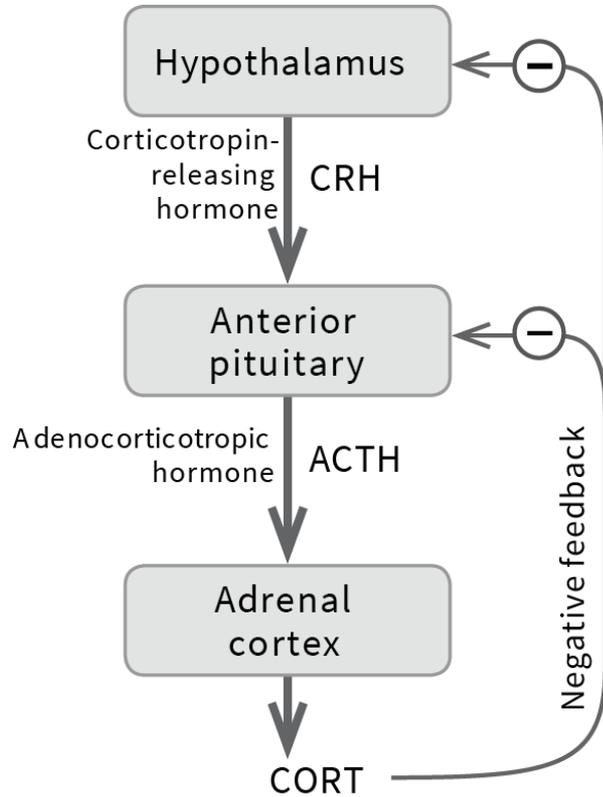
NEUROTRANSMITTERS

- Cells make connections in neural pathways
- Synaptic transmission and serotonin
- Neurotransmitter problems create:
 - Depression
 - Appetite Cravings
 - Brain Fog
 - Low IQ
 - Anxiety
 - Panic Attacks
 - Insomnia
 - Eating disorders
 - Migraines
 - Ease of distraction or ADD



HPA AXIS

- **Includes: hypothalamus, the pituitary gland and the adrenal glands**
- **Regulate functions such as:**
 - Stress response
 - Mood
 - Digestion
 - Immune system
 - Libido
 - Metabolism
 - Energy levels



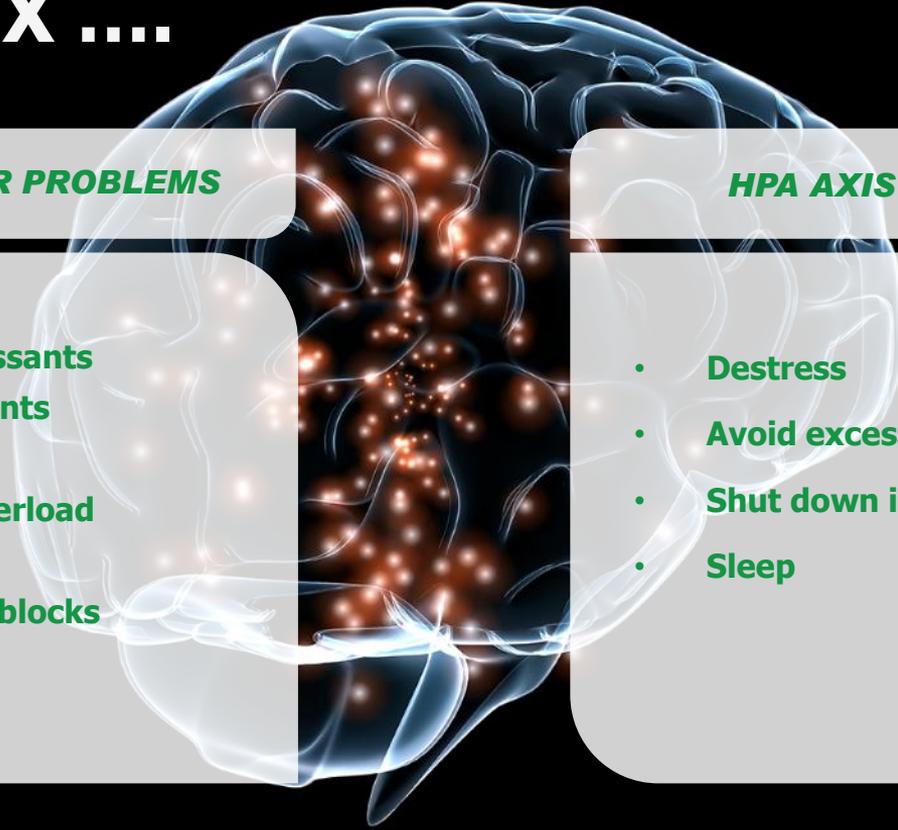
HOW TO FIX

NEUROTRANSMITTER PROBLEMS

- **Avoid anti-depressants**
- **Modulate stimulants**
- **Avoid toxins**
- **Avoid sensory overload**
- **Fix your gut**
- **Replace building blocks**
- **Eat healthy fats**

HPA AXIS DYSFUNCTION

- **Destress**
- **Avoid excessive exercise**
- **Shut down inflammation**
- **Sleep**



TWO NEW WAYS TO ENHANCE YOUR BRAIN

**PROTECTING BLOOD
BRAIN BARRIER**

1

***GETTING A WELL
FUNCTIONING &
OPTIMAL TUNED
BRAIN...***

**INCREASING
NEUROPLASTICITY**

2

1

**NEUROTRANSMITTERS
& HPA AXIS**

2

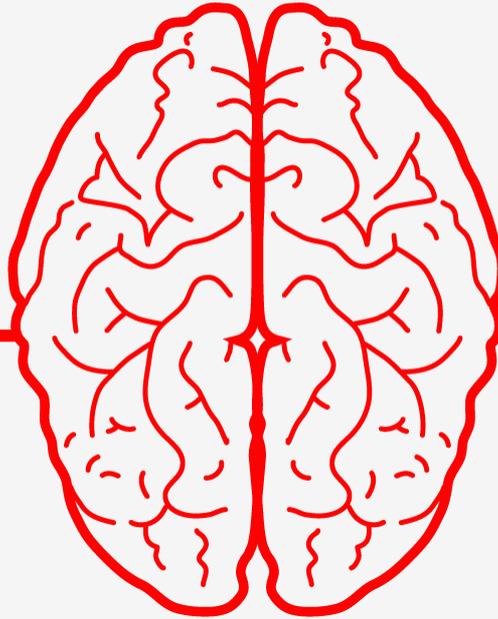
**THE BLOOD BRAIN
BARRIER**

3

NEUROPLASTICITY

BLOOD-BRAIN BARRIER

- **Lies between the brain and the rest of the body**



- **Prevents fluctuations in serum composition**

- **Regulates passage of inflammatory cytokines into the brain**

- **Protects against environmental toxins and infectious pathogens**

12 WAYS TO SUPPORT YOUR BLOOD-BRAIN-BARRIER

1

**OPTIMIZE YOUR
B VITAMIN
INTAKE**

2

**NOURISH
YOUR GUT**

3

**EAT PLENTY OF
MAGNESIUM**

4

**DON'T EAT A
40% COCOA
BUTTER DIET**

5

**USE
PHYTONUTRIENT-
RICH PLANTS AND
SPICES**

6

**DRINK
COFFEE
AND/OR TEA**

7

**SUPPLEMENT
S CAN HELP**

8

**CONTROL YOUR
BLOOD
PRESSURE**

9

SLEEP

10

**DON'T DRINK
TOO MUCH
ALCOHOL**

11

**STIMULATE
YOUR VAGAL
NERVE**

12

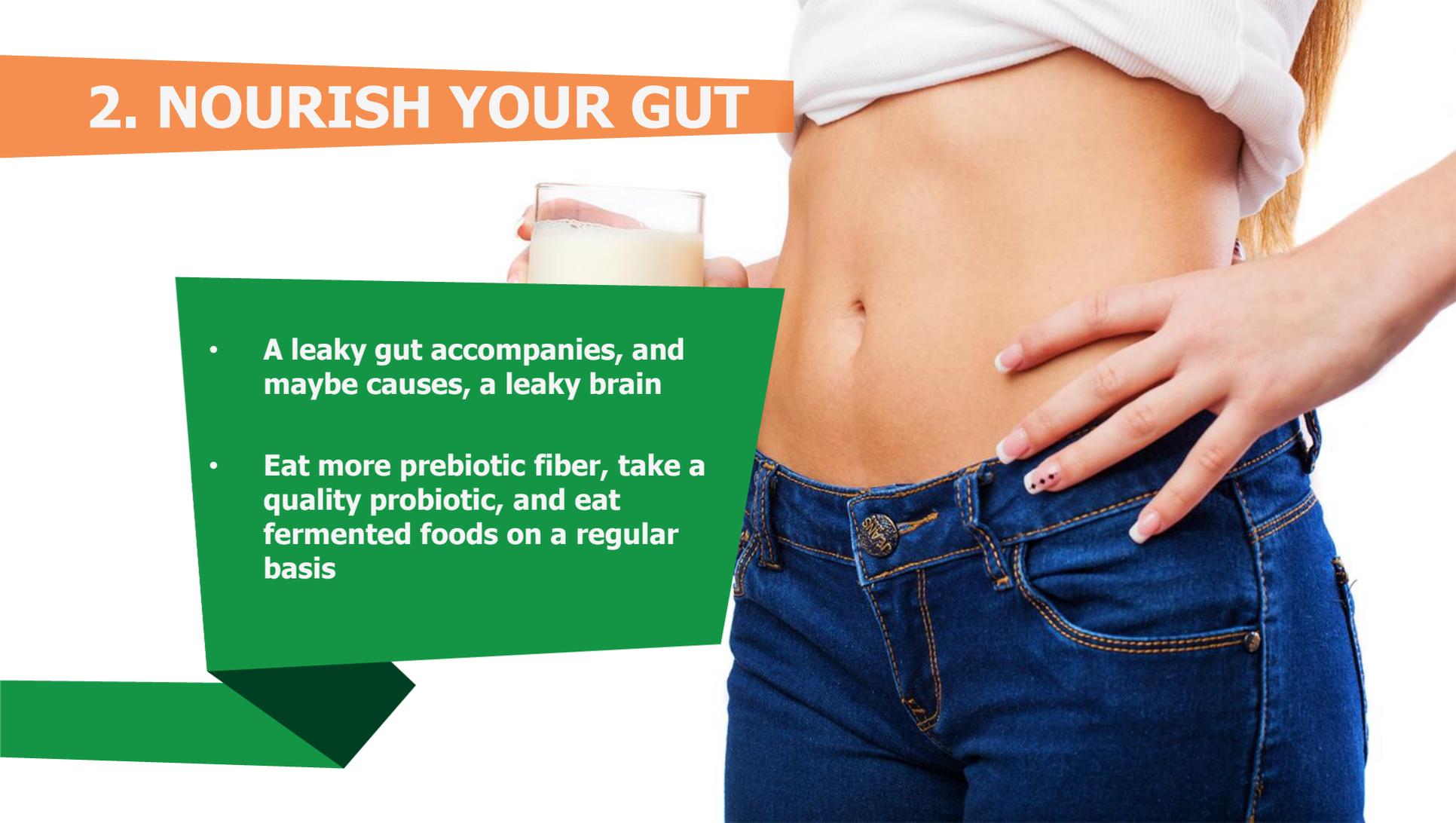
**STOP EATING
SO OFTEN**

1. OPTIMIZE YOUR B VITAMIN INTAKE



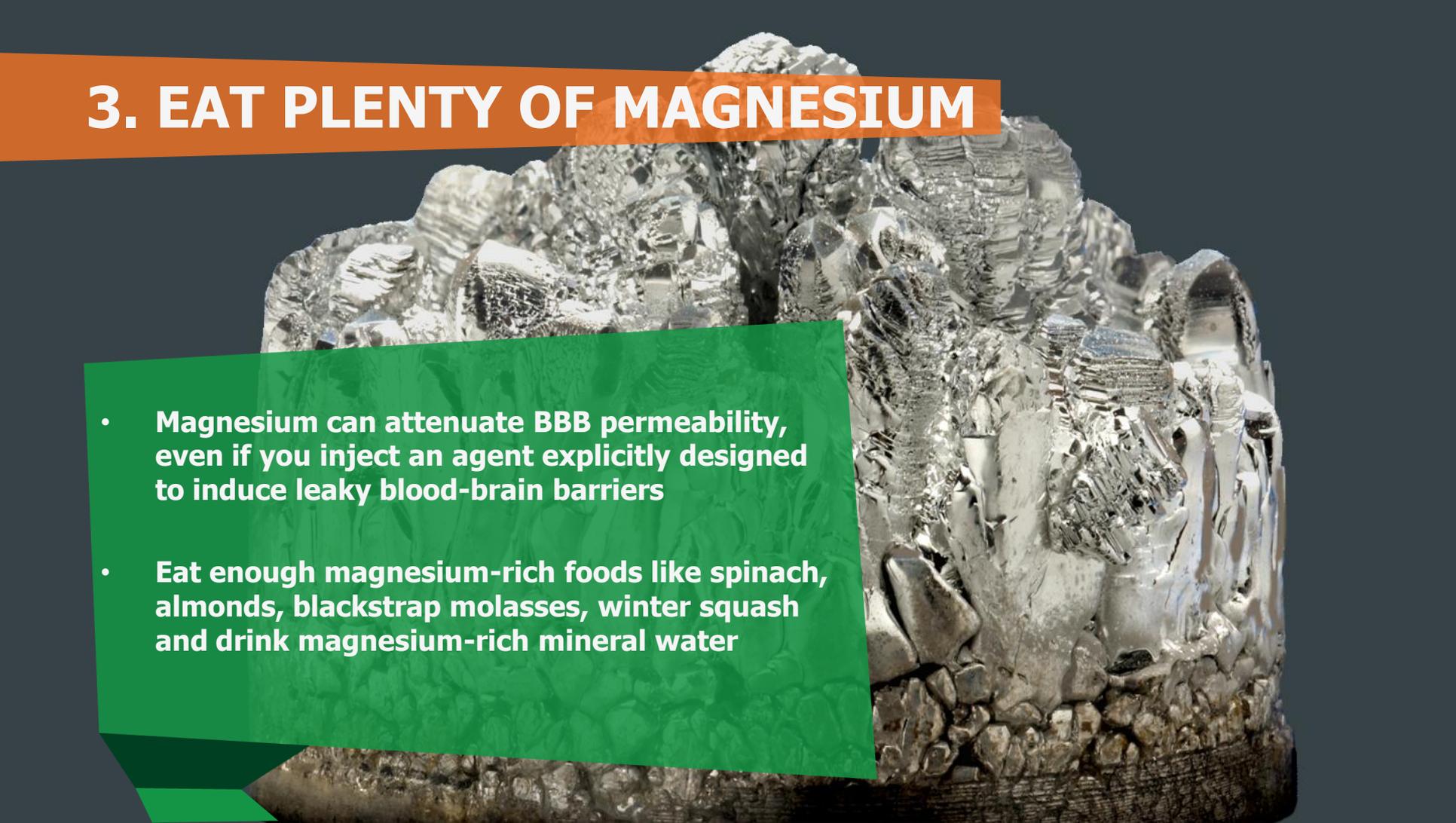
- **Vitamin B12-B6 and B9 (Folate) treatment Improves Blood-Brain Barrier Function in Patients with Hyperhomocysteinaemia and Mild Cognitive Impairment**

2. NOURISH YOUR GUT

A photograph of a woman's midsection. She is wearing a white ribbed crop top and blue denim jeans. Her right hand is holding a clear glass filled with a light-colored smoothie. Her left hand is resting on her right side, near her hip. The background is plain white.

- **A leaky gut accompanies, and maybe causes, a leaky brain**
- **Eat more prebiotic fiber, take a quality probiotic, and eat fermented foods on a regular basis**

3. EAT PLENTY OF MAGNESIUM



- Magnesium can attenuate BBB permeability, even if you inject an agent explicitly designed to induce leaky blood-brain barriers
- Eat enough magnesium-rich foods like spinach, almonds, blackstrap molasses, winter squash and drink magnesium-rich mineral water

4. DON'T EAT A 40% COCOA BUTTER DIET

- A refined diet high in saturated fat and sugar/starch and absent any phytonutrient-rich plant foods like garlic or antioxidant supplements like ALA will cause elevated BBB permeability*

**based on studies made with rodents*

5. USE PHYTONUTRIENT-RICH PLANTS AND SPICES

- **Aged garlic extract is particularly rich in phytonutrients with strong antioxidant eliminates the bad BBB effects of a refined lab diet**
 - Other promising options are:
 - Curcumin (from turmeric)
 - Astragalus root
 - Broccoli
 - Brussels sprouts
 - Cabbage



6. DRINK COFFEE AND/OR TEA

An orange ceramic coffee cup and saucer are tipped over, spilling a large quantity of dark brown coffee beans onto a dark, textured surface. The beans are scattered from the cup, forming a trail that extends towards the bottom right of the frame. The background is a dark, almost black, textured surface.

- Coffee and tea are so special, both are sources of caffeine, a noted protector of BBB integrity

7. SUPPLEMENTS CAN HELP



- Supplement forms of the aforementioned nutrients can help
- Inositol improves BBB integrity
- Berberine reduces BBB permeability
- Alpha-GPC reduces BBB permeability in hypertensive rats

8. CONTROL YOUR BLOOD PRESURE



- **Both acute and chronic hypertension increase BBB permeability**
- **Some recommendations:**
 - Control your sleep and stress
 - Eat dark chocolate
 - Get enough magnesium and potassium

9. SLEEP

A woman with dark hair is sleeping peacefully in a bed with white linens. She is lying on her side, facing left, with her eyes closed and a calm expression. The bed has a white pillow and a white duvet cover. The background is a light-colored wall.

- Sleep restriction impairs BBB function and increases permeability
- If you have sleep problems try a little dose of melatonin (0.25-0.5mg) to set your circadian rhythm and preserve BBB integrity

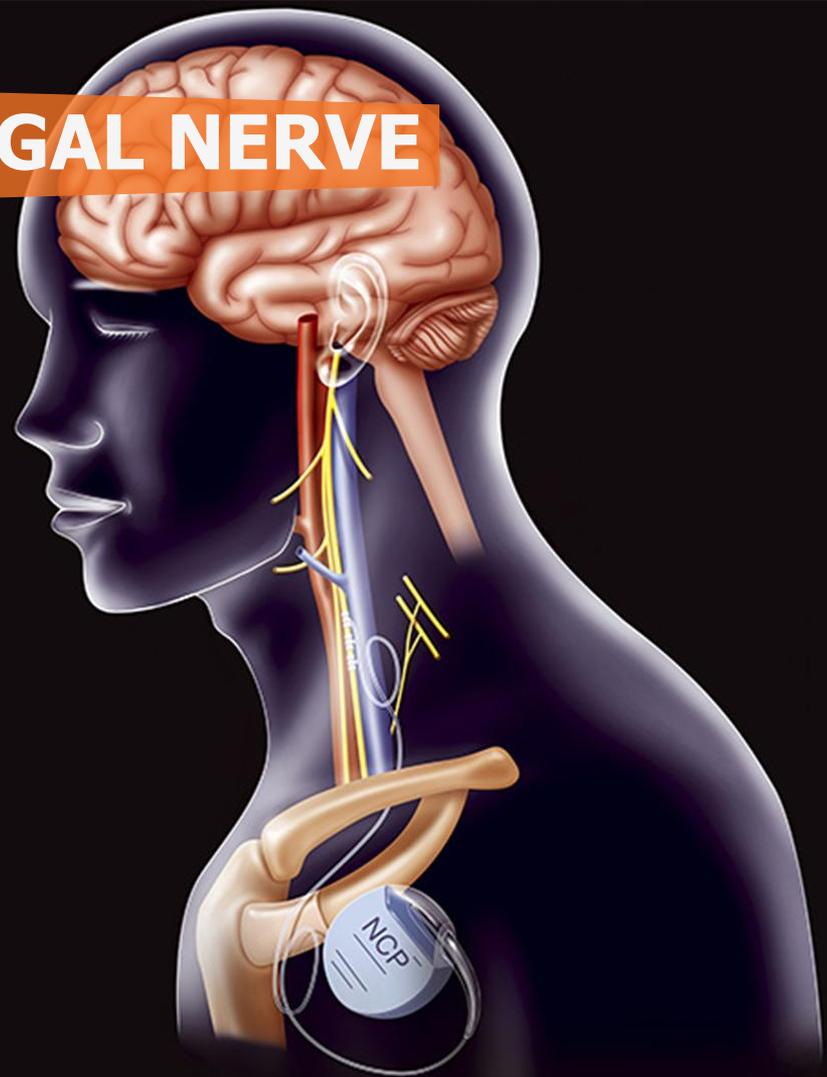
10. DON'T DRINK TOO MUCH ALCOHOL

- Within many alcohol's negative effects is induction of BBB dysfunction
- High-dose ethanol migrating across the BBB damage the neurons and opens the door to immune cells to cause trouble



11. STIMULATE YOUR VAGAL NERVE

- After a traumatic brain injury or stroke, the resultant increase in BBB permeability floods the brain with inflammatory cytokines, causes swelling and neuronal death, and worsens the prognosis
- Stimulating the vagal nerve after such an injury decreases the BBB permeability and improves the prognosis



12. STOP EATING SO OFTEN

- **Make sure to eat when you feel actual hunger. It's the best spice, and it confers a whole host of other benefits, including better blood-brain barrier function**



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NEUROPLASTICITY

16 WAYS TO INCREASE NEUROPLASTICITY

1

**GET ENOUGH
MAGNESIUM**

2

**GET ENOUGH
CHOLINE**

3

SLEEP

4

EAT FISH

5

EAT TURMERIC

6

**MOVE
FREQUENTLY**

7

SPRINT

8

GO HARD

9

GO FAST

10

**MITIGATE
STRESS**

11

**GREASE THE
GROOVE**

12

**SEEK
NOVELTY**

13

**LEARN AN
INSTRUMENT**

14

**TACKLE A
DIFFICULT
SUBJECT**

15

**LEARN A
LANGUAGE**

16

**TRY
PSILOCYBIN**

A close-up photograph of a woman's hand holding a white, round pill between her fingers, positioned just above her open mouth as if about to swallow it. The background is softly blurred, showing a white surface and a glass. The image is split vertically: the left side has a green overlay with text, and the right side shows the woman's hand and mouth.

1

GET ENOUGH MAGNESIUM

- **Magnesium is involved in over 400 physiological functions (Neuroplasticity is one of them)**
- **Alzheimer's patients have lower brain levels of magnesium**
- **Giving rats magnesium increased synaptic plasticity, synaptic connections, and cognitive performance**

2

GET ENOUGH CHOLINE

- **Choline produce acetylcholine, a neurotransmitter required for neuronal plasticity**
- **Two forms of choline recommended: CDP choline and Alpha-GPCr**
- **Pastured egg yolks is a natural source of choline and other brain friendly nutrients (Selenium, Cholesterol, DHA)**

3

SLEEP

- Sleep might be the most essential nutrient for neuroplasticity
- Sleep provides allows new connections, new memories, and new skills learning





- **Seafood intake lower rates of conditions that brain plasticity protects against depression and mild cognitive impairment**
- **Animal studies reveal that omega-3 fats enhance neurogenesis, synaptic plasticity, and long-term potentiation of learned behaviors**

4

**EAT
FISH**



5

EAT TURMERIC (OR USE CURCUMIN)

- **Turmeric/Curcumin can aid neuroplasticity**
- **Curcumin reduce depressive symptoms**



6

MOVE FREQUENTLY AT A SLOW PACE

- **Aerobic training is a potent booster of BDNF (brain-derived neurotrophic factor)**
- **Resistance training is associated with cognitive improvements in mild cognitive impairment**





7

SPRINT

- **Sprinting is an even better way to boost BDNF**
- **Elite international sprinters have higher levels of basal BDNF than amateurs**

8

GO HARD

- **Intensity increases BDNF**
- **Recommended exercises:**
 - Cross Fit
 - Squats
 - Frisbee
 - Burpees
 - Barbell



9

GO "FAST"

- **Fasting is a sure-fire way to increase BDNF levels and increases neuronal autophagy**
- **Tip: Intermittent fast (12-24 hours)**



10

MITIGATE STRESS



- **Stress dampens neuroplasticity**
- **Stress increase our “Lizard Brain” (Fear, anger, anxiety)**
- **Reduce stress with:**
 - **Nutrients**
 - **Sleep**
 - **Life style**

11

GREASE THE GROOVE

- Do pullups, five or six, ten times a day
- Pullups helps to build new neuronal pathways when perform it frequently (without excess strain and stress)





12

SEEK NOVELTY

- Routine makes our brain “Lazy”
- Humans are novelty seekers by nature, it’s how we learn, experience, and ultimately live most fully in the moment

13

LEARN AN INSTRUMENT

- **Music training has profound effects on neuroplasticity**



14

TACKLE A DIFFICULT SUBJECT



- **Must be difficult and Interesting**
- **Should take real effort and Engagement**
- **Some recommendations:**
 - Read a book
 - Take on-line course
 - Attend a class
 - Go to a seminar
 - Learn to code

15

LEARN A LANGUAGE

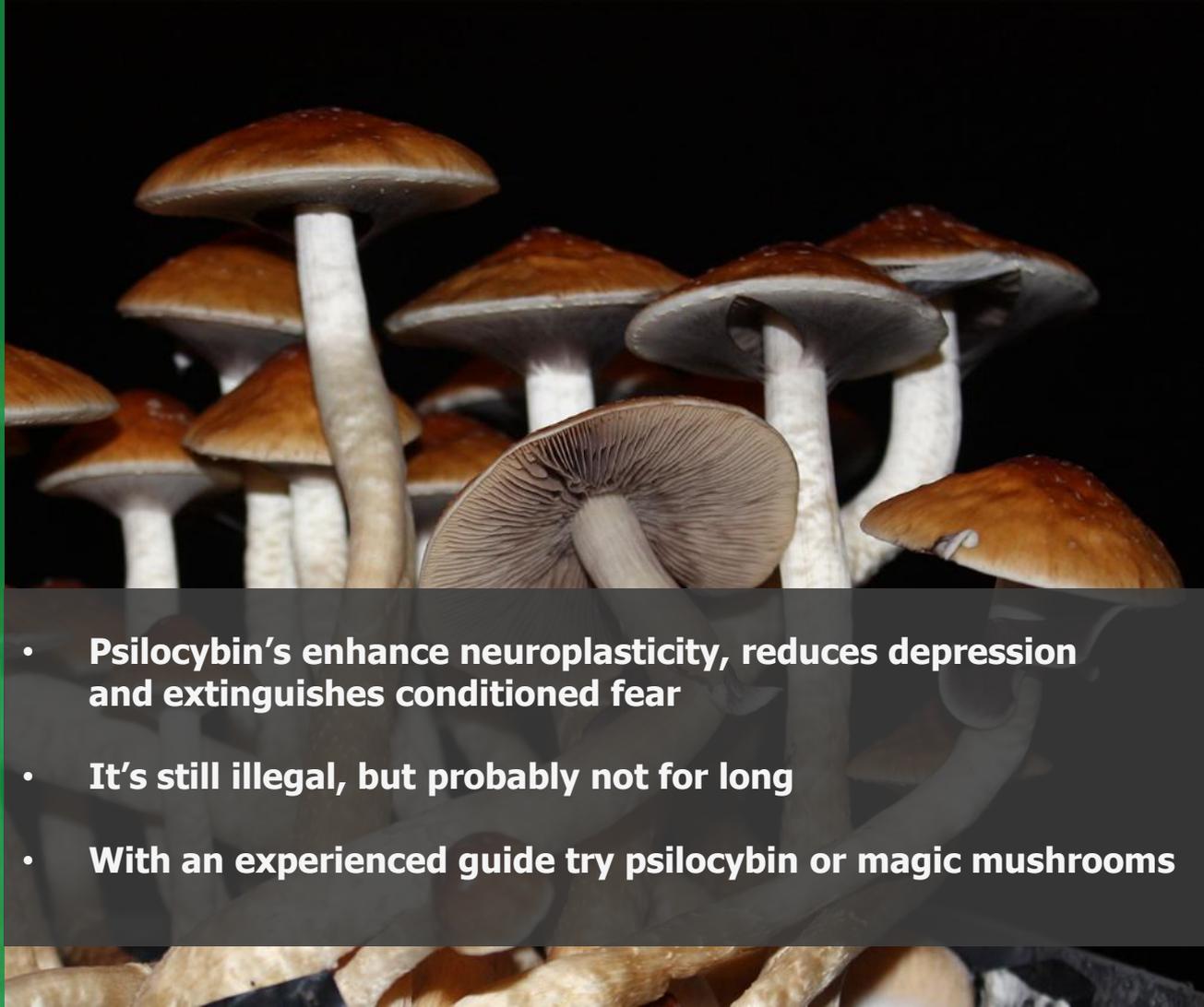
- There's no better way to test and train your neuroplasticity than learning an entirely new form of communication

清
月
CLARITY

智
白
WISDOM

16

TRY PSILOCYBIN (WHEN LEGAL)



- Psilocybin's enhance neuroplasticity, reduces depression and extinguishes conditioned fear
- It's still illegal, but probably not for long
- With an experienced guide try psilocybin or magic mushrooms

3a

PROTECTING YOUR LEAKY BLOOD BRAIN BARRIER SUMMARY

- The brain is the seat of all the conscious machinations and subconscious processes that comprise human existence, anything attempting entry **MUST** receives severe scrutiny
- We want to admit glucose, amino acids, fat-soluble nutrients, and ketones.
- We want to reject toxins, pathogens, and errant immune cells

3b

**INCREASE
NEUROPLASTICITY**

- **Neuroplasticity strengthen the existing neuronal pathways and establish new neurons and connections**
- **Get Magnesium, Choline, Turmeric & Fish**
- **Sleep & Mitigate Stress**
- **Challenge your brain**
- **Keep moving**



BENGREENFIELDFITNESS

Q & A

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