



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

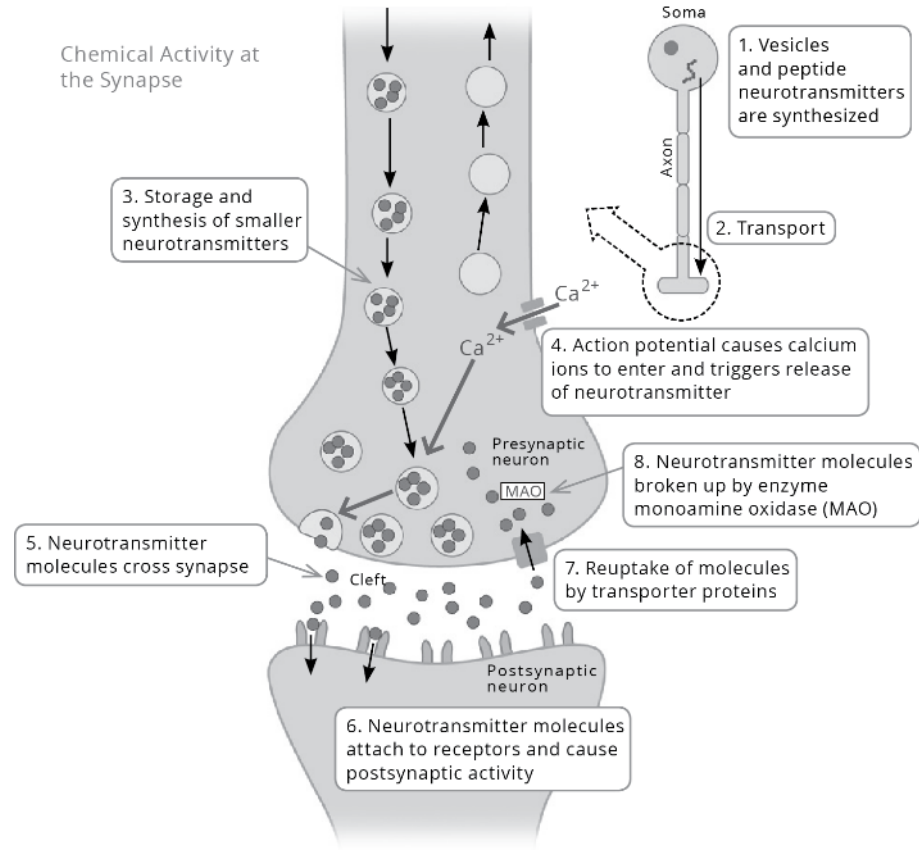
**NEUROTRANSMITTER
PROBLEMS**



**HPA AXIS
DYSFUNCTION**

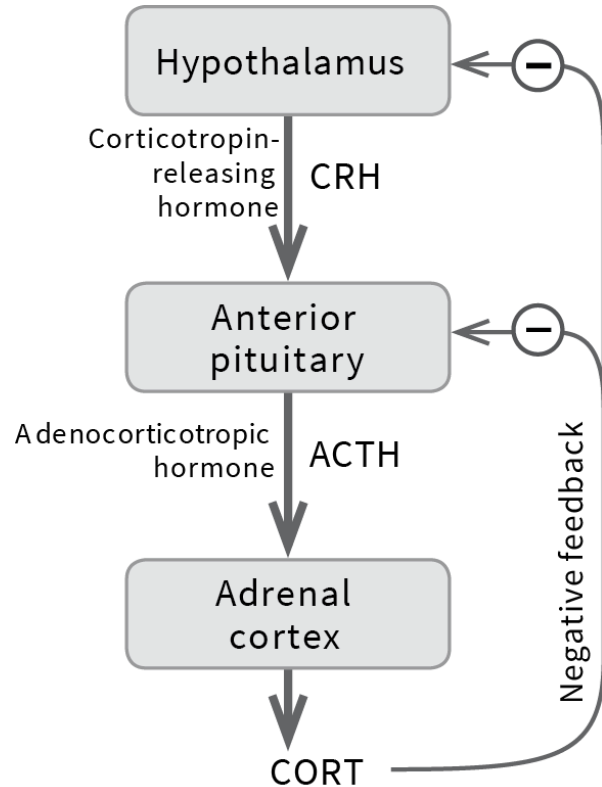
NEUROTRANSMITTERS

- 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



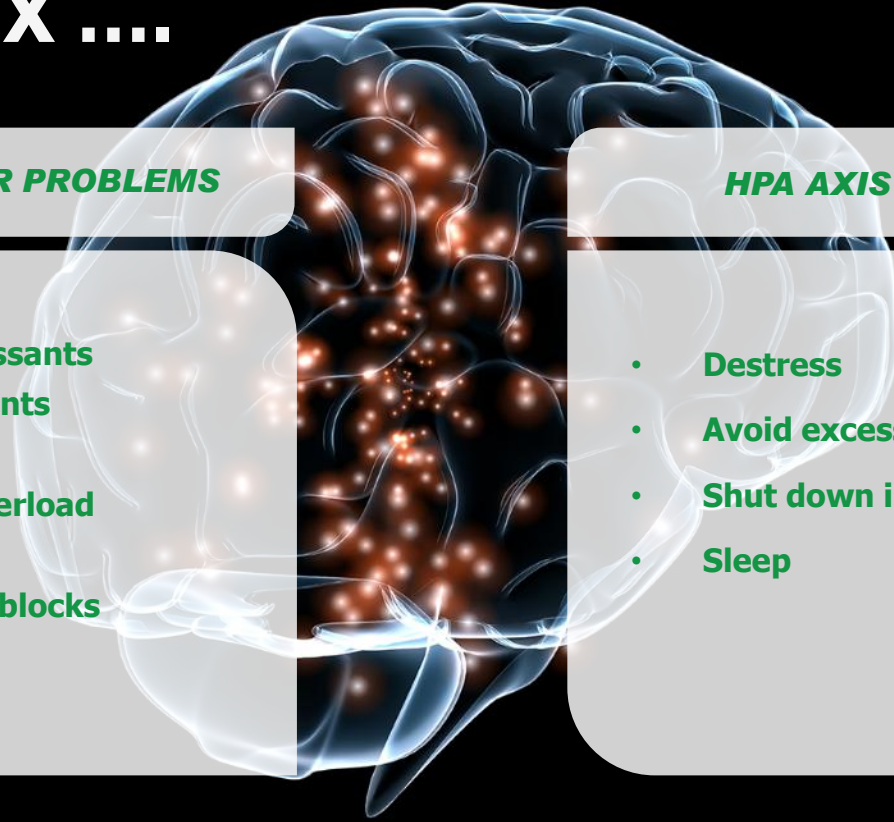
HOW TO FIX

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



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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**

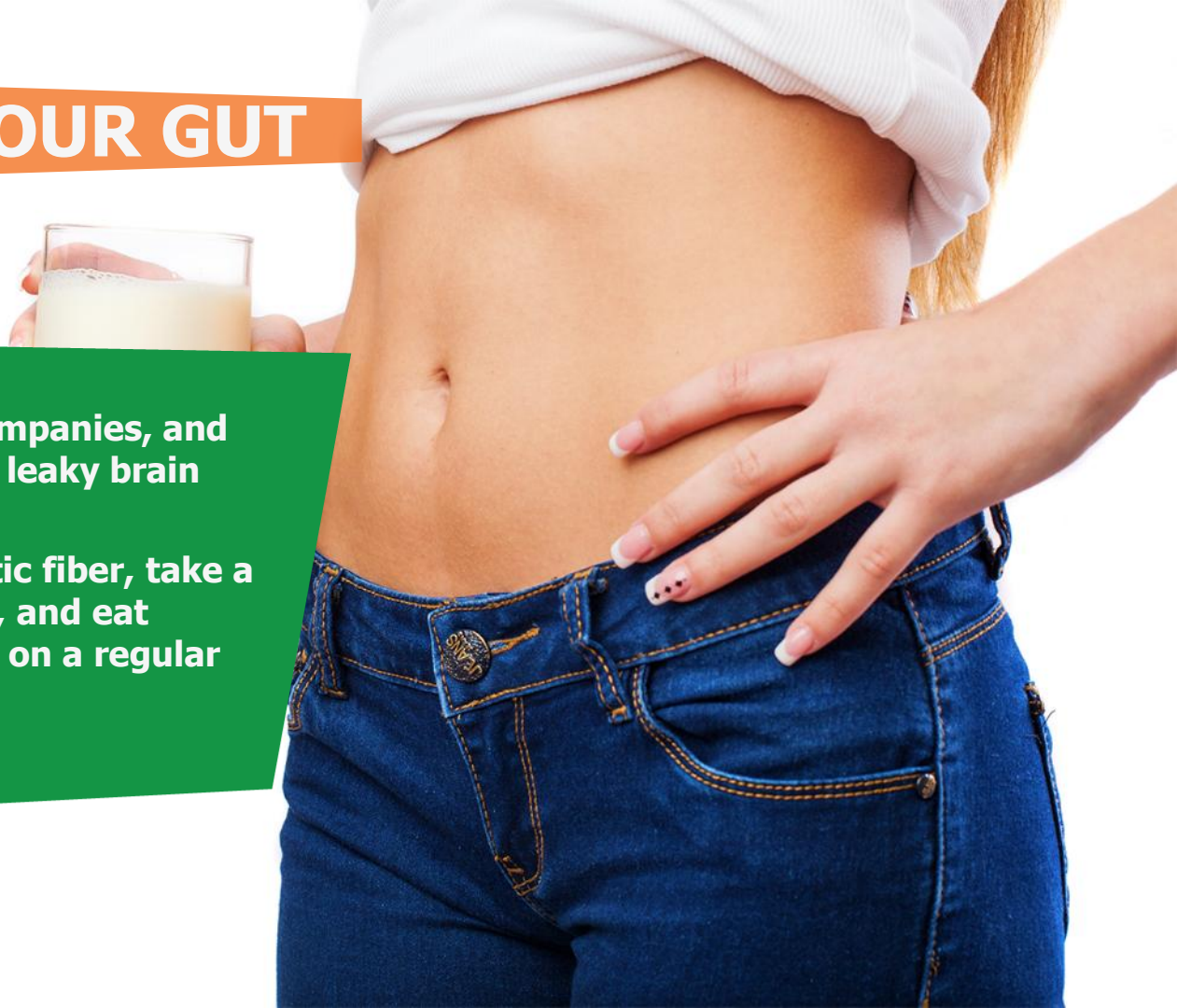
1. OPTIMIZE YOUR B VITAMIN INTAKE



- **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 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 is tipped over its side, spilling a large quantity of dark brown, roasted coffee beans. The beans are scattered across a dark, textured surface, possibly slate or stone. The cup sits on a matching orange saucer. The background is a solid dark grey or black.

- 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 pillows and a white duvet. She is wearing a red string bracelet on her right wrist. 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

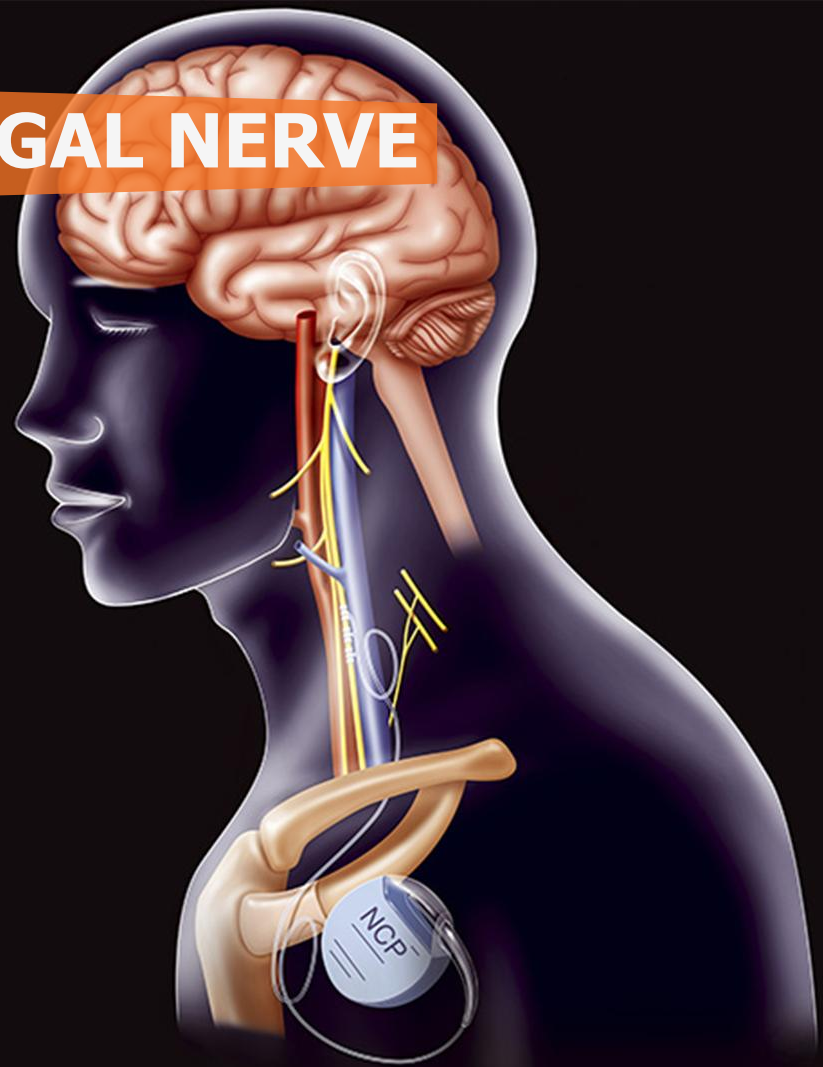
10. DON'T DRINK TOO MUCH ALCOHOL

- 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 person's mouth open, with a hand holding a white, round pill just above the tongue. The background is a solid green color on the left side, which transitions into the photograph on the right. The number '1' is inside a white circle on the green background.

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

- 
- A man with curly hair, wearing a white long-sleeved shirt and white trousers, is performing a Tai Chi movement on a sandy beach. He is in a wide, low stance with his arms extended forward and slightly out to the sides, palms facing each other. The background shows the ocean with white-capped waves under a blue sky with scattered clouds. The scene is captured from a side profile, emphasizing the fluidity of the movement.
- **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





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

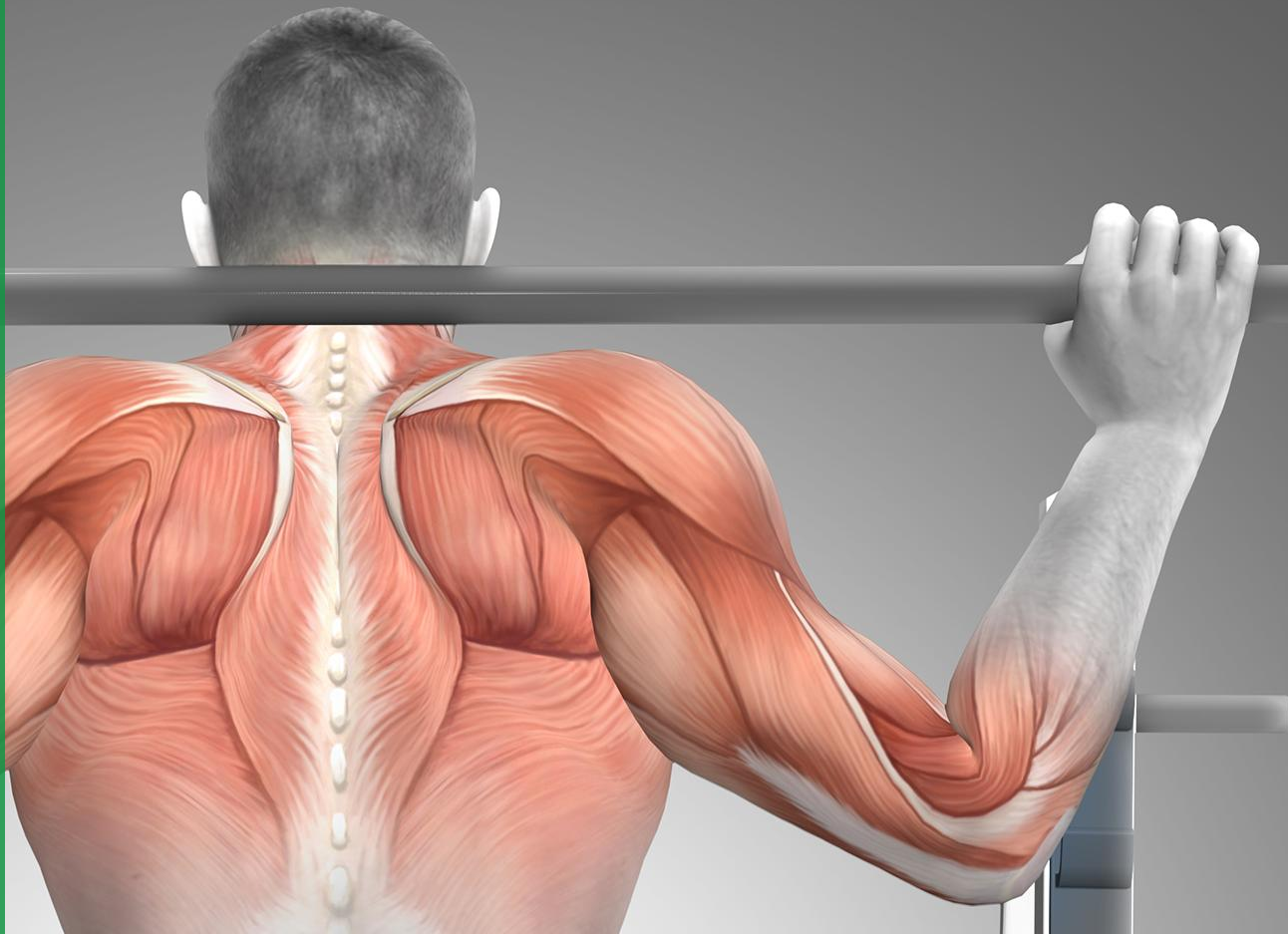


- **Stress dampens neuroplasticity**
- **Stress increase our “Lizard Brain” (Fear, anger, anxiety)**
- **Reduce stress with:**
 - **Nutrients**
 - **Sleep**
 - **Life style**

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)



A silhouette of a diver underwater, holding a large camera rig with multiple lenses and lights. The diver is positioned diagonally across the frame, with their head towards the top right and feet towards the bottom left. The water is a deep blue, and sunlight filters through from the surface, creating a shimmering effect. Bubbles are visible near the diver's hands.

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

CLARITY

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

Want all resources, links & goodies
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