

*the mountains
are calling and
i must go.* JOHN
MUIR

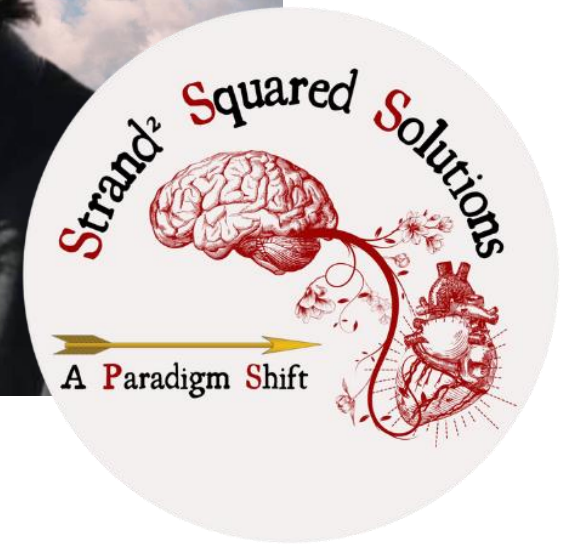


**Plan for the Worst, Expect the Best:
Understanding Psychophysiological Response to Crisis and Trauma on Body
and Brain**

Plan for the Worst, Expect the Best:

Psychophysiological response to crisis and trauma on body and brain

In our world, we are always working to provide the best outdoor experiences. We hire cultivate expert team members, we make sure our equipment is up to code, we provide training to elevate our skillsets and we center on safety for everyone involved. For the most part, we are wildly successful at creating adventures that our communities can cradle in their memories for their entire lives. However, once in a long while, there are moments of loss and devastation. Events like natural disaster, victimization, or accidents could cause trauma or even Post Traumatic Stress Disorder. It is important to understand what happens to the human body and brain during and after a crisis situation and how to help your community transcend that trauma when it does happen.





glimmer

Glimmers are guided by our ventral vagal system. These make us feel safe, connected to ourselves and other people. Calling attention to our glimmers can bring a return to autonomic regulation, creating a meaningful shift in perspective.

-JK Murphy

**“They tried to bury us;
they did not know we were seeds.”
– Dinos Christianopoulos**



Being a human being is a complicated experience. Prior the 2020, many – if not most of us – where already navigating trauma in some form or another.

Now, after the year we have had – collectively we are all so tired and stretched in ways we couldn't have imagined....

We are
experiencing
collective

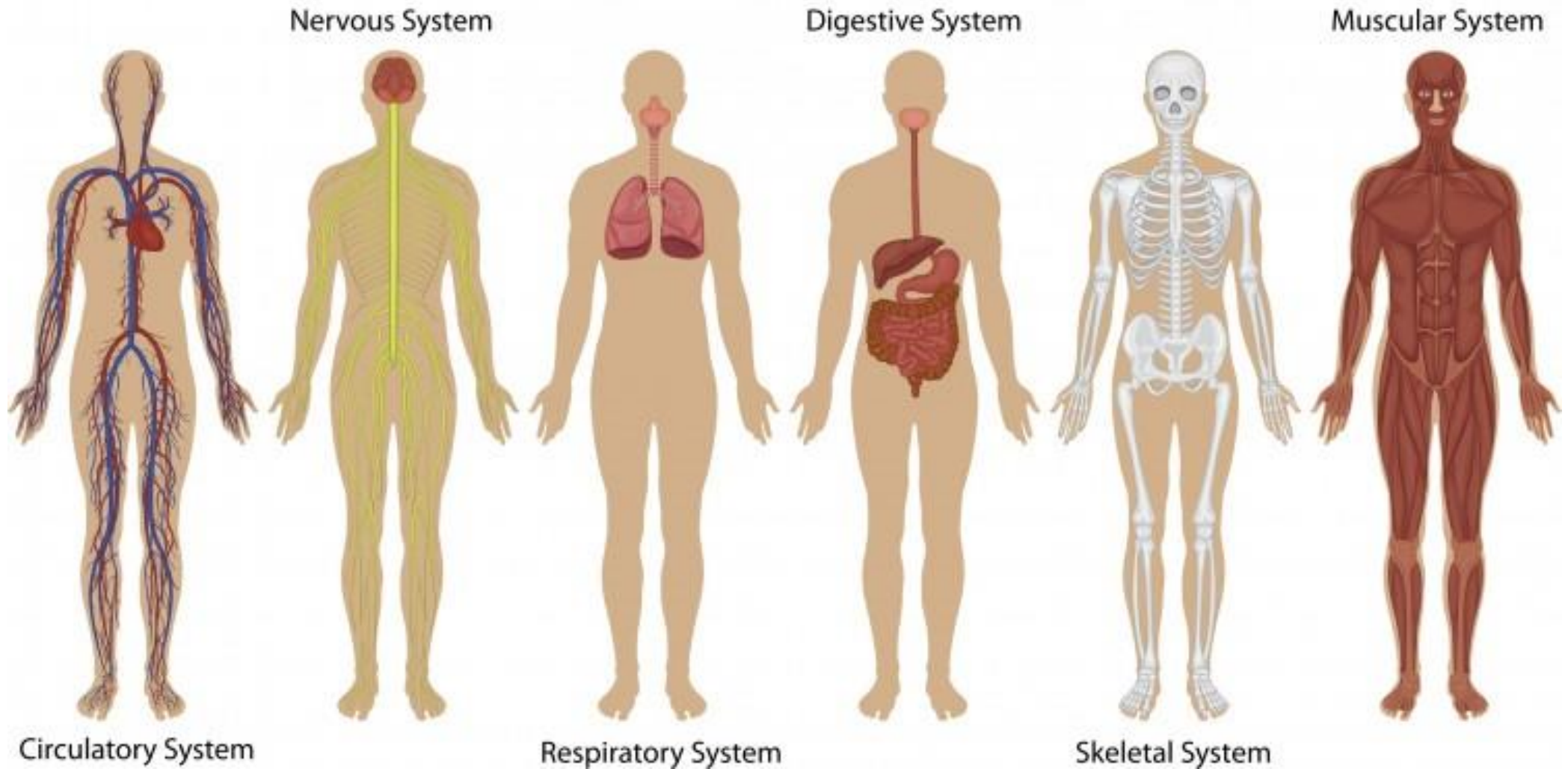
And yet – here you are – at a conference dedicated to adventures in outdoor spaces and you picked this topic???

I am in awe of the strength in this space.

Disaster.







Psychophysiological Impact of Trauma on the Body
and Brain

Prefrontal Cortex

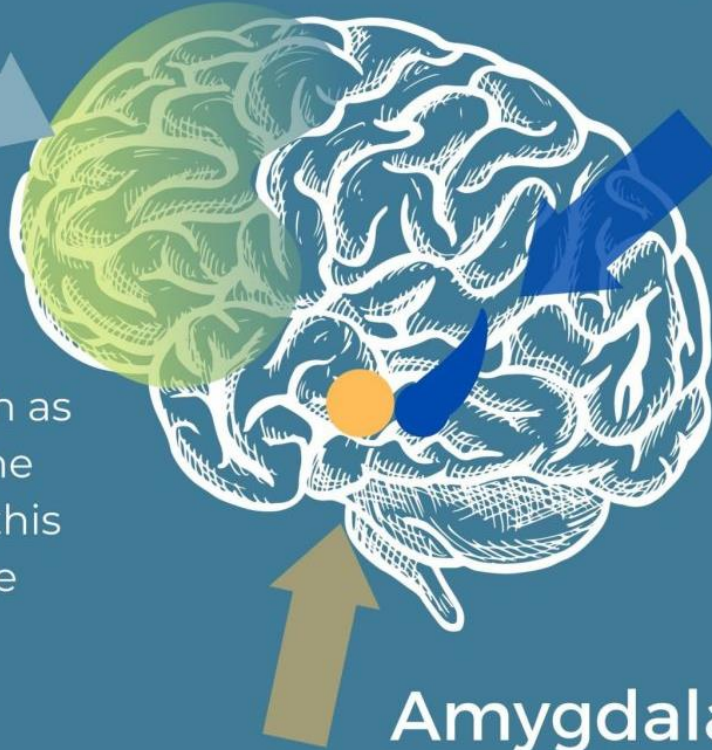
Rational thinking - regulates emotions such as fear responses from the amygdala - with PTSD this has a reduced volume

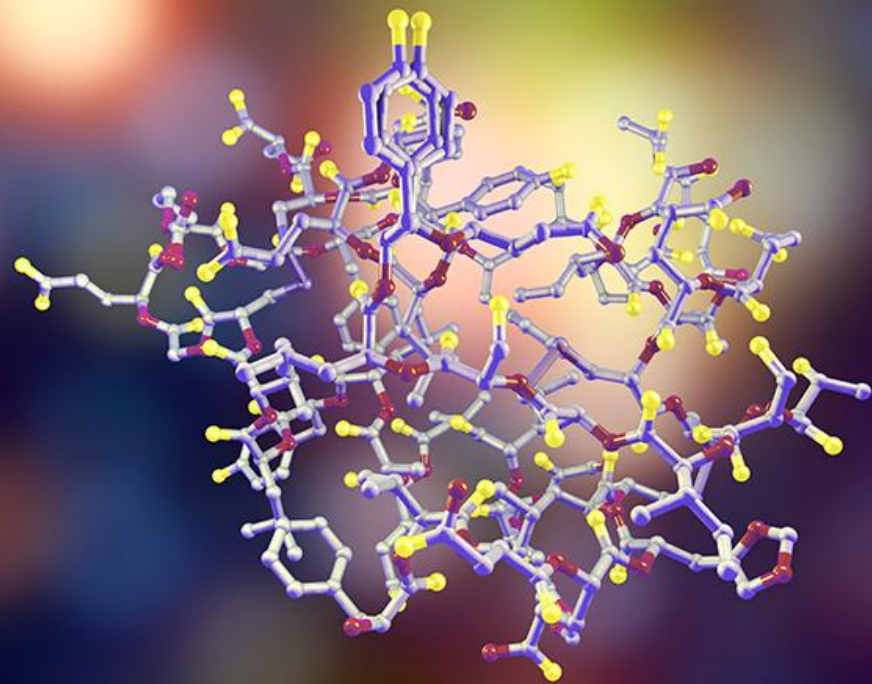
Hippocampus

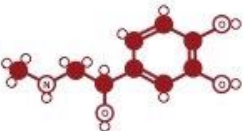

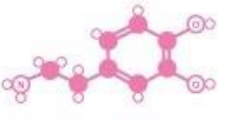
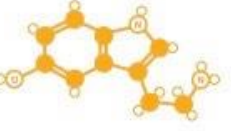



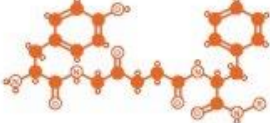
Responsible for memory and differentiating between past and present - works to remember and make sense of the trauma. With consistent exposure to trauma, it shrinks.

Amygdala

Wired for survival, when active, it is hard to think rationally. The more hyperactive the amygdala is, the more signs of PTSD are present.

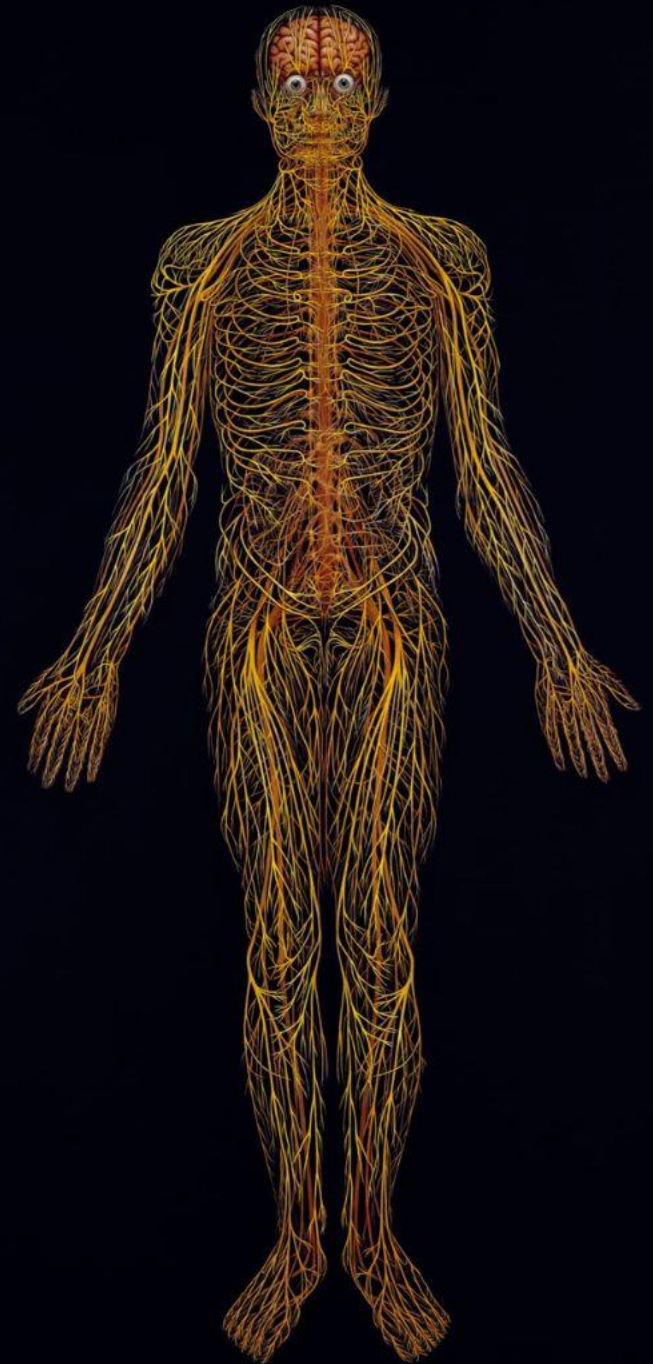




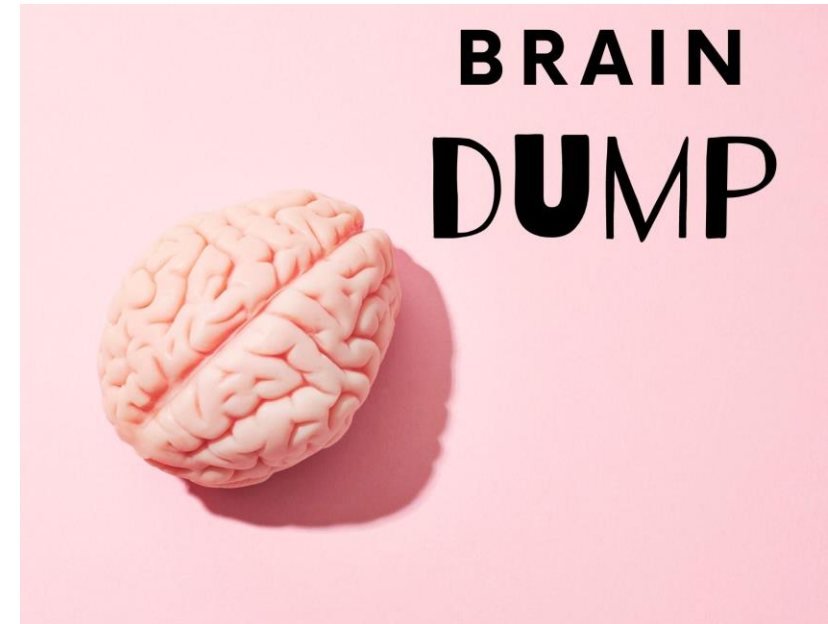
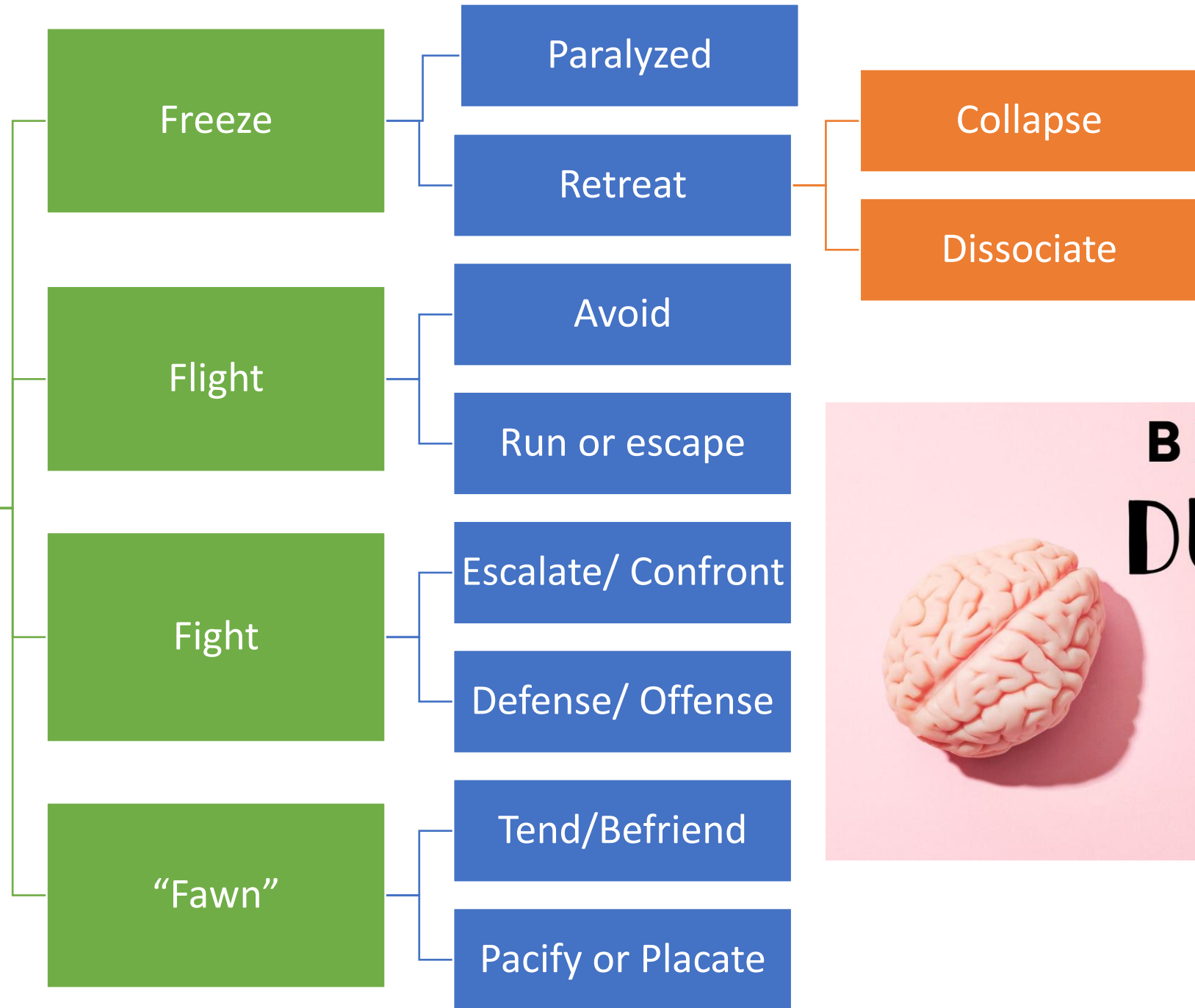
ADRENALINE	NORADRENALINE	DOPAMINE	SEROTONIN
			
Fight or flight neurotransmitter	Concentration neurotransmitter	Pleasure neurotransmitter	Mood neurotransmitter
GABA	ACETYLCHOLINE	GLUTAMATE	ENDORPHINS
			
Calming neurotransmitter	Learning neurotransmitter	Memory neurotransmitter	Euphoria neurotransmitter

Activated during times of stress, the body's **sympathetic nervous system activates** the fight, flight or freeze response. These changes happen very quickly.

In contrast, the **parasympathetic nervous system's job is to relax the body** and use hormones to slow down those frantic responses once the threat is gone. The PSNS gives the body a calm and relaxed feeling over a period of time. These changes don't happen as quickly as those of the sympathetic nervous system.



Trauma



Flat Effect
Giggling
Floating Away
Issues with
memory
Elated

BRAIN DUMP

Scared. Sad. Traumatized. Anger.

Crying
Roller Coaster
Flippant
Tired/Hungry/Thirst

xx

Stress and Trauma impact on the body:

Skin:

Can aggravate psoriasis, rosacea, and eczema. It can also cause hives and other types of skin rashes and trigger a flare-up of fever blisters. Can increase acne.

Heart:

Increases blood pressure and heart beat. Leads to higher cholesterol. Increases risk of heart attack.

Pancreas:

Leads to diabetes.

Intestines and Digestion:

Leads to IBS, Diarrhea, Constipation.

Reproductive System:

Reduced sex drive, reduced sperm production, increased pain during periods or during sex.

Head:

Causes issues with mood: anger, irritability, sadness. It also causes issues with energy, concentration, sleep. It can increase headaches and pain. It can complicate and increase mental health issues.

Lungs:

Can cause shortness of breath, holding of breath, rapid breathing and constricted airways.

Joints and Muscles:

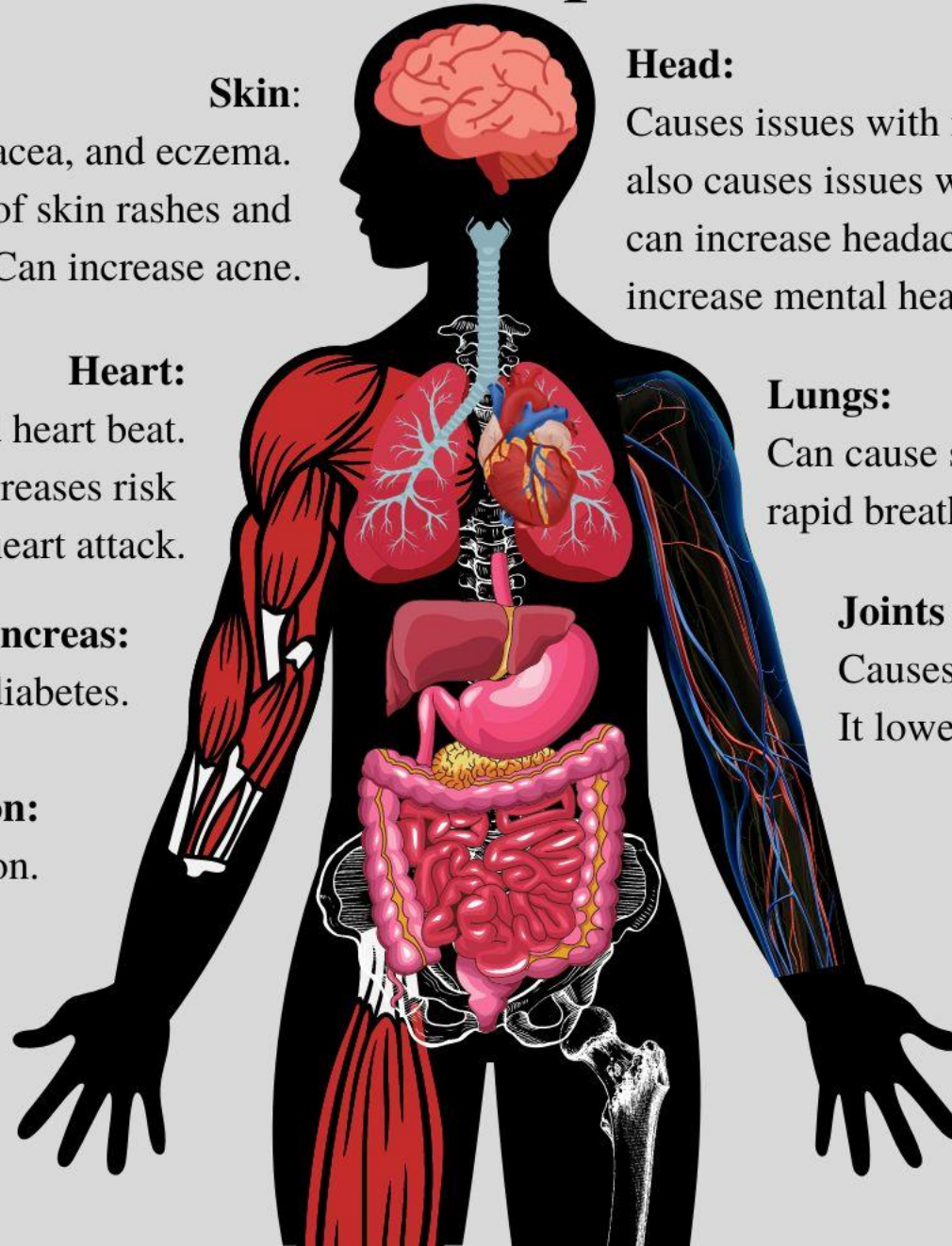
Causes aches, pain and tension
It lowers bone density

Stomach:

Causes reflux, cramps and nausea.
Also leads to weight fluctuation

Immune System:

Reduced ability to battle and recover from illness.



Echo TURN ON OLD THOUGHTS set off
stir up old feelings spark trigger
cause illicit a response BRING ABOUT
generate
PROMPT activate FIRE UP ELICIT
reactivate
BRING YOU BACK provoke FUEL
give rise to incite REMIND YOU



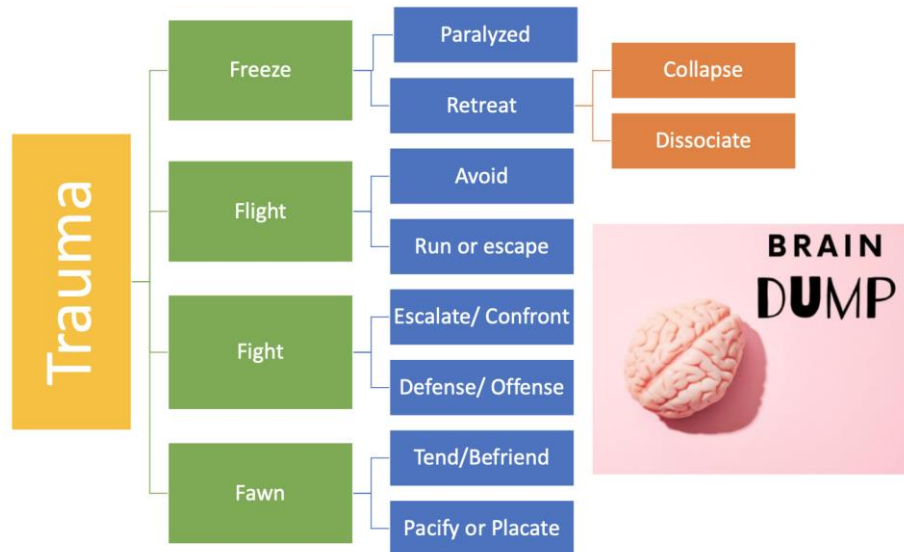
ADRENALINE	NORADRENALINE	DOPAMINE	SEROTONIN
<chem>CC1=CC=C(C=C1)N(C)CC2=CC=CC=C2</chem>	<chem>CC1=CC=C(C=C1)N(C)CC2=CC=CC=C2</chem>	<chem>C1=CC=C(C=C1)N(C)CC2=CC=CC=C2</chem>	<chem>C1=CC=C(C=C1)N(C)CC2=CC=CC=C2</chem>
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BRAIN DUMP

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Giggling
Floating Away
Issues with memory
Elated

Scared. Sad. Traumatized

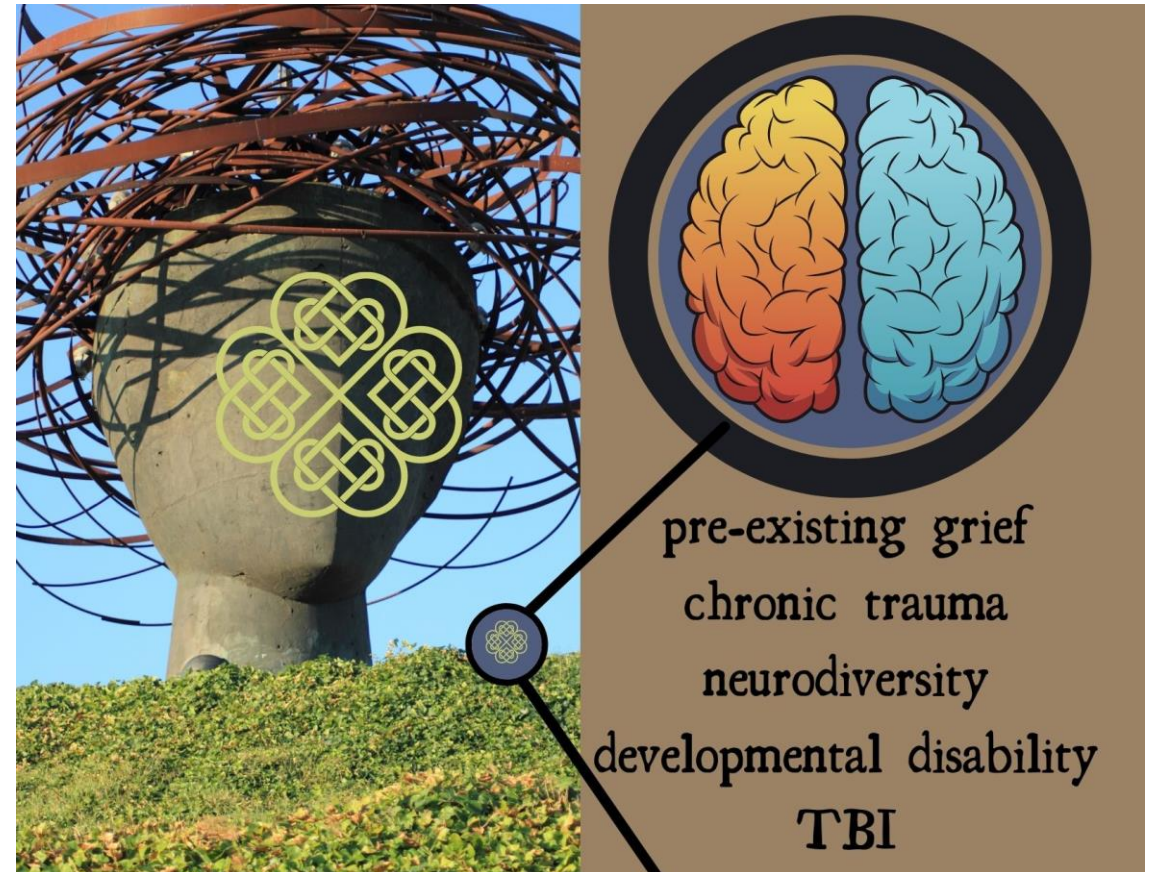
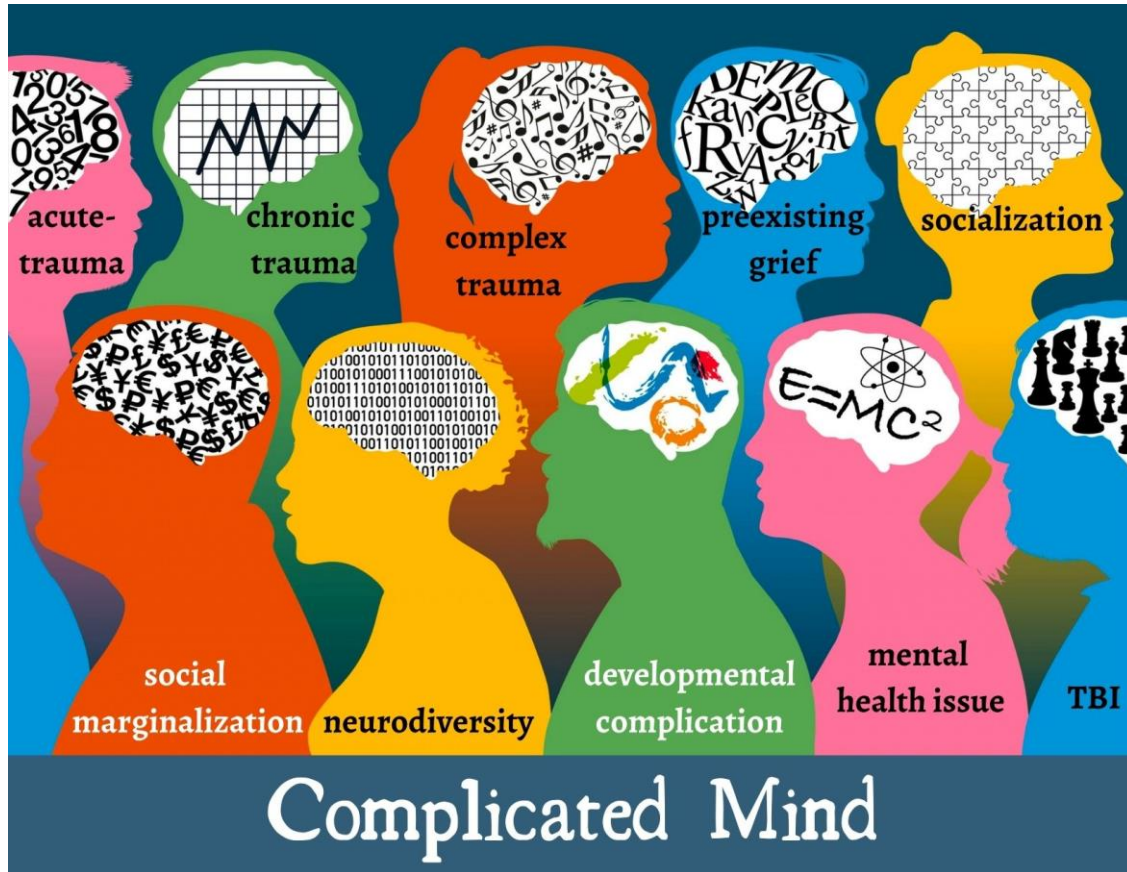
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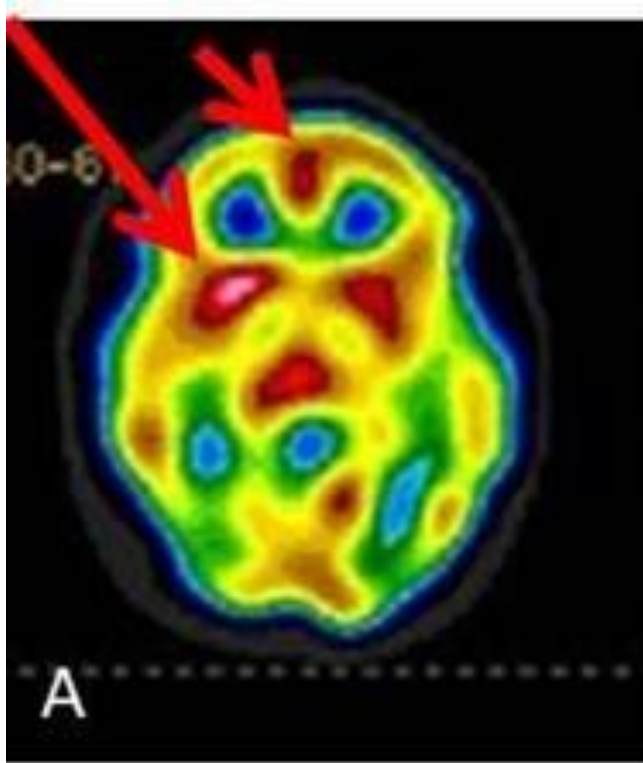


SELF Limited Attention Span
MEDICATION Poor Hygiene
Issues With Sleep *Flight Mentality*
angry *disconnection/ isolation*
Cutting
Sexual Promiscuity
High Risk Behavior

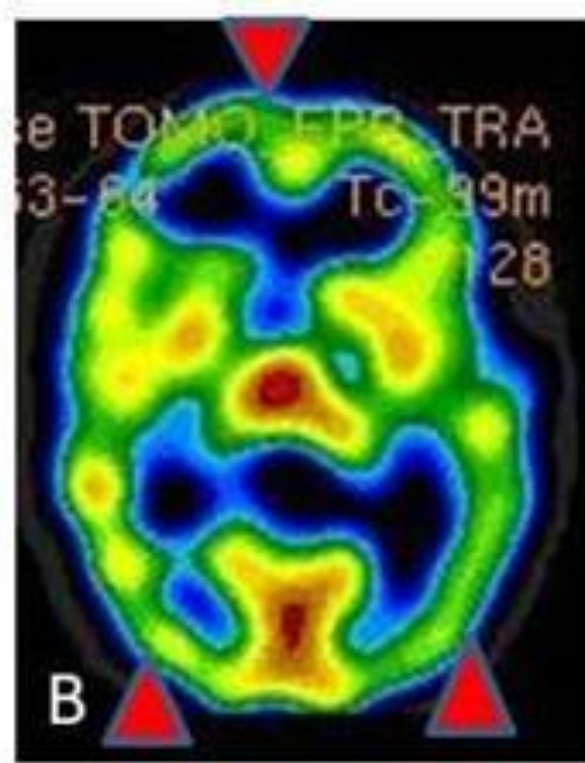
Fear
Toxic Validation Needs
Gallows humor
criminal behavior
Plus, they are simply
humans living complicated lives.

Defensiveness
Distracted

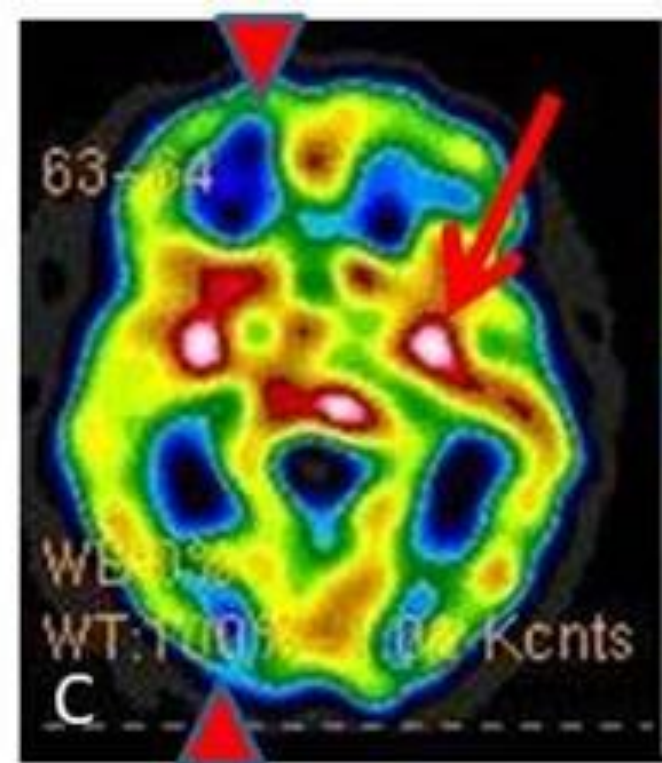




PTSD



TBI



PTSD + TBI



Elements of trauma informed care



*understanding of
brain/body
response to trauma*



safety



*trustworthy,
dependable,
transparent*



*peer
support*



*collaboration
& mutuality*



*empowerment,
voice & choice*



Intersectional



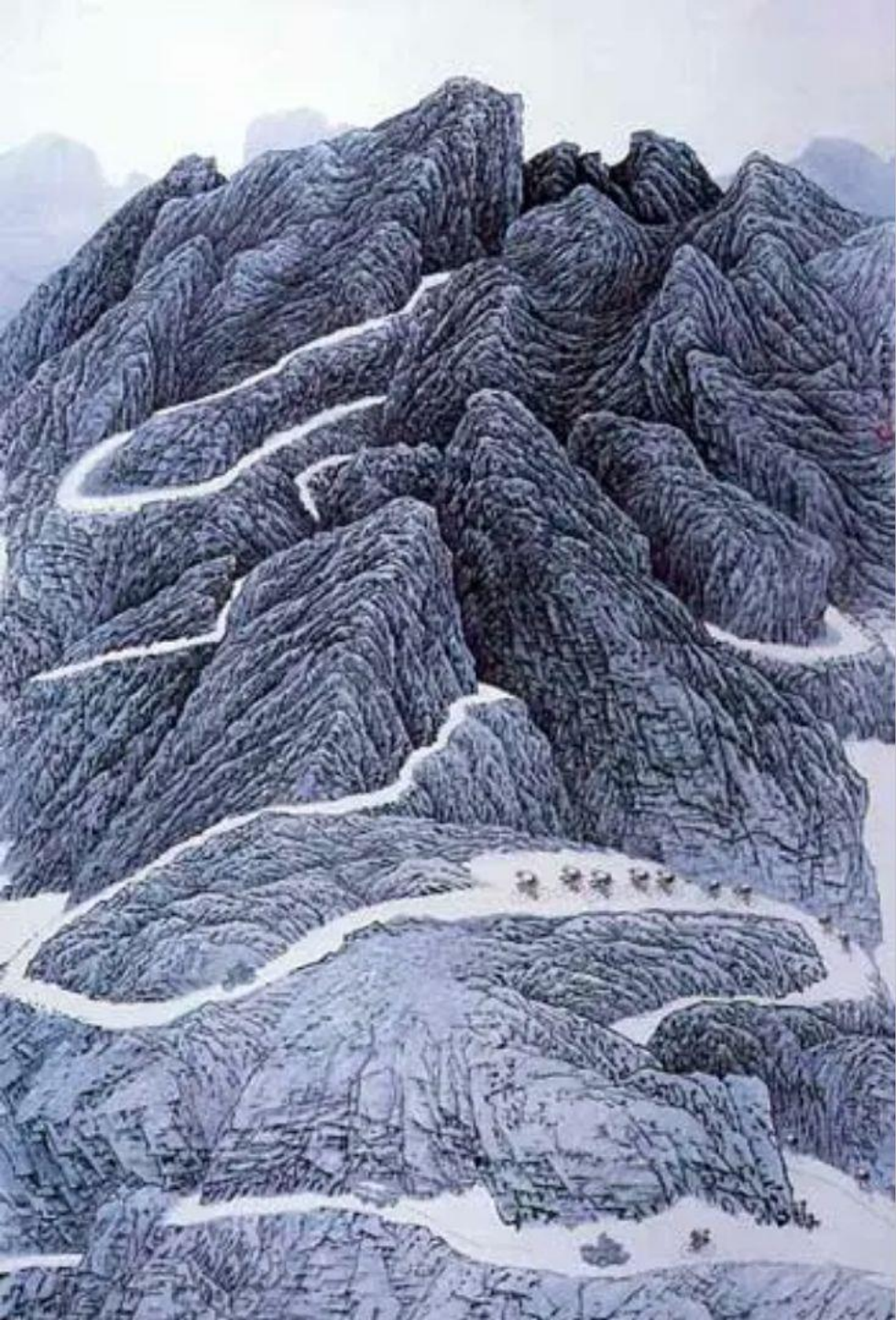
*resilience &
recovery*



*compassion
with empathy*



hopeful



creating hope

1 The ability to set realistic goals
(I know where I want to go).

2 Is able to figure out how to achieve those goals,
including the ability to stay flexible and develop
alternative pathways (I know how to get there,
I'm persistent, and I can tolerate disappointment
and try new paths again and again).

3 Has agency- the belief in oneself
(I can do this!)

after ACTION
report



**critical incident
stress debriefing**



The
plan

.....
is to have a

plan

before you need a

plan

Some Aspects of a Plan

Communication

- Builds trust
- What, when, to whom?
- Who should review?
- What resources are available?

Support

- Directly impacted parties
- Direct leadership managing on the ground
- Group gathering? Counseling?

Reporting / Legal Considerations

- Do you have support in place? (Lawyer / mediator / counselors on retainer?)

Schedule/Budget Prioritization

- Crisis don't often come at opportune times
- Who can do your job if you can't?
- When we move fast / reactively, we miss things
- Do we have a budget to outsource?



How do we offer acute support and sustained support?

Back to the...



Where do you want to start?

Do you have
any
Questions?

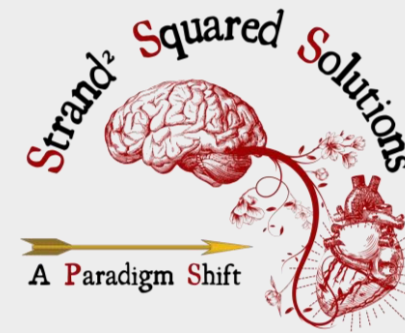




Do you want culture training or season debriefs?

- Processing during/after a tough season?
- Prepare groups & leaders with communication skills?
- Equity & Inclusion training?
- Coaching for leaders / managers?

www.engagecoachingandconsulting.com
Emily@engagecoachingandconsulting.com



Do you want to learn more?

- More about psychological safety?
- More about trauma informed practices and protocols?
- Help with your DEIB work?
- More about critical incident stress debriefing?
- Do you want a certified in-house trauma advocate?

www.strandsquared.com
myrastrand@strandsquared.com