



Self-Care & Well-Being Discussion Group for Firefighters/EMS

The Bridge Retreat
August 11-13 2023
Dr. John Malinky

“Like a Rock”

Bob Seger & The Silver Bullet Band

**Stood there boldly
Sweatin' in the sun
Felt like a million
Felt like number one
The height of summer
I'd never that strong
Like a rock**

**I was eighteen
Didn't have a care
Working for peanuts
Not a dime to spare
But I was lean and
Solid everywhere
Like a rock**

**My hands were steady
My eyes were clear and
bright
My walk had purpose
My steps were quick and
light
And I held firmly
To what I felt was right
Like a rock**

**Like a rock, I was strong
as I could be
Like a rock, nothin' ever
got to me
Like a rock, I was
something to see
Like a rock**

**And I stood arrow straight
Unencumbered by the
weight
Of all these hustlers and
their schemes
I stood proud, I stood tall
High above it all
I still believed in my
dreams**


**Twenty years now
Where'd they go?
Twenty years
I don't know
I sit and I wonder
sometimes
Where they've gone**

**And sometimes late at
night
When I'm bathed in the
firelight
The moon comes callin' a
ghostly white**

**And I recall
I recall
Like a rock, standin' arrow
straight
Like a rock, chargin' from
the gate
Like a rock, carryin' the
weight
Like a rock
Like a rock, the sun upon
my skin
Like a rock, hard against
the wind
Like a rock, I see myself
again
Like a rock**

<https://youtu.be/7Ng2bLqtgSk>





“Some days I feel a thousand different emotions all at once.
Other days I am nothing but numb.
I am tired of this rollercoaster masquerading as my life.
Stop the ride.
I want to get off.”

-Anonymous fire fighter



Risk Assessment

- Rated 0: none/NA, 1: occasional, 2: frequent
 - History of substance abuse
 - Mental health problems
 - Thoughts about not wanting to wake up in the morning/others might be better off if you were not around
 - Suicidal thoughts with specific plan and intent
 - History of suicide attempts
 - Impulsive behavior
 - Employment problems
 - Relationship instability
 - Enjoying life and freedom
 - Following departmental policy and rules
 - Positive personal relationships
 - Need for speed
 - Enjoying risk taking behavior
 - Problems with anger
 - History of violent acts
 - TOTAL

Risk Assessment: Symptom Checklist

Symptom	None	Mild	Moderate	Severe
Nightmares				
Flashbacks				
Irritability				
Problems with memory				
Problems with concentration				
Sleep problems				
Change in weight				
Feel sad, blue, down				
Hopelessness				
Helplessness				
Worthlessness				
Anger				
Tense and nervous				
Worry				
Doubt decision making				
Thoughts that you can't get out of your mind				
Loss of pleasurable activities				
Lack of energy				
Jumpy				
Avoid people				




What do you consider stressful?

- Write down statements
- Once opinions are recorded, categorize into groups of stressors



Talk about stressors as presented in risk assessment

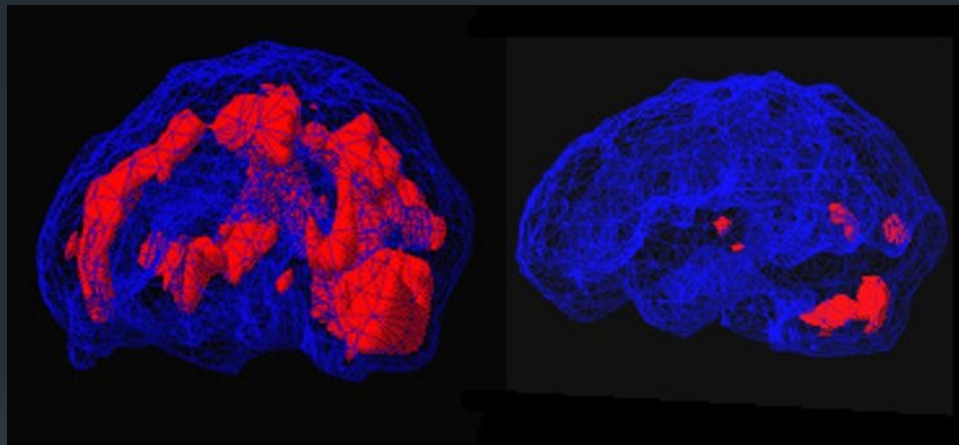
- Ask to discuss those stressors and reaction to filling out the questionnaire
- Explain why the questionnaire was needed and how we are using it as a follow-up



Why are some situations stressful and others aren't?

- Have each individual write down responses
- Categorize them
- Explain biological model of stress

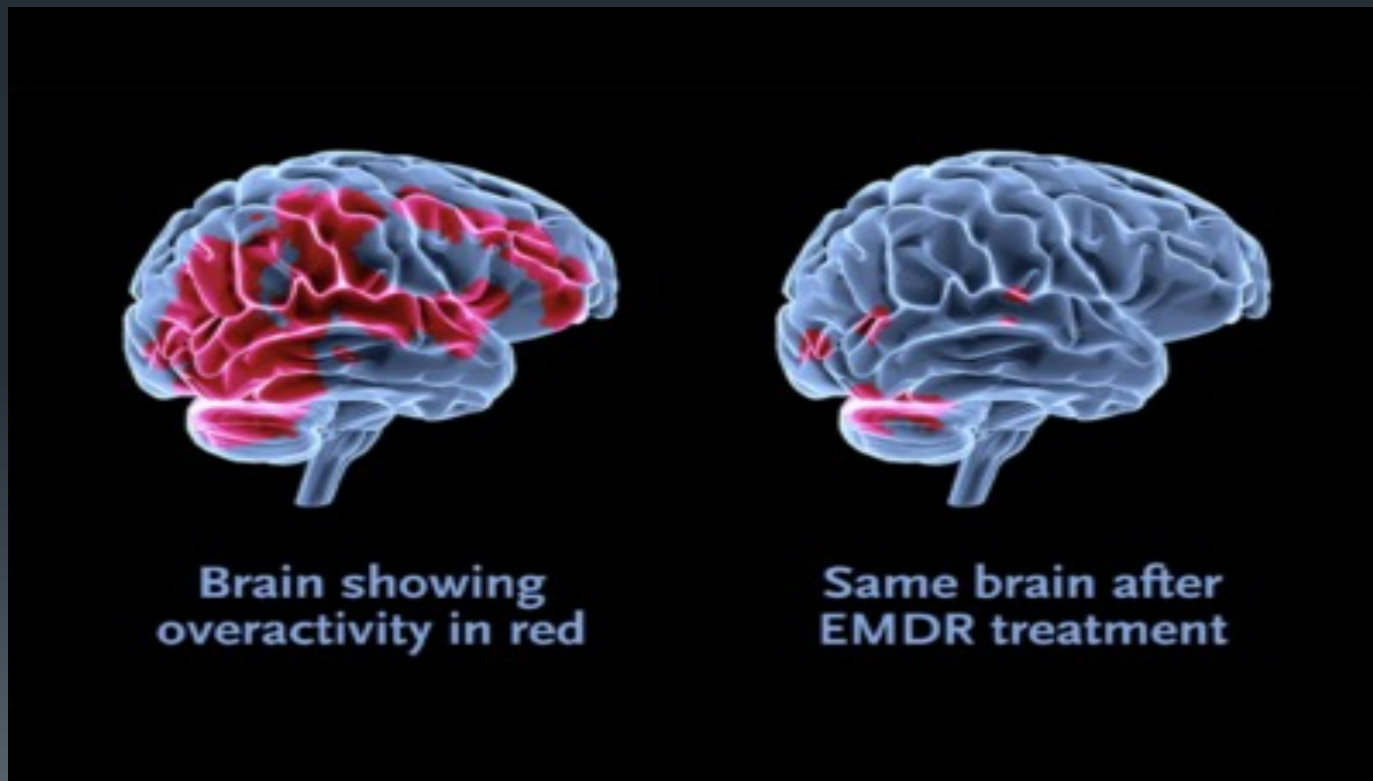
PHYSIOLOGICAL CHANGES IN THE BRAIN



Before and after EMDR brain scans.

Left photo shows woman with Post Traumatic Stress Disorder. Right photo shows same woman after four ninety minute EMDR sessions. The red areas indicate over-activity in the brain. Photo by Dr. Daniel Amen

PHYSIOLOGICAL CHANGES IN THE BRAIN





THE AMYGDALA

- Connected to the hypothalamus, thalamus, & parts of cerebral cortex.
- Central cross roads junction
 - Where all the senses are tied together & endowed with emotional meaning.
- It's an alarm system
- Scans for danger & sends message to neocortex.
- The discovery of this new sub-cortical pathway explained why the lesions in the auditory cortex, though they did prevent the animals from identifying a sound precisely, did not prevent them from acquiring a conditioned fear. The neural pathway from the thalamus to the amygdala simply bypassed the cortex.
- The amygdala plays a central role in the emotion of fear, whatever the nature of the sensory stimulus that triggers it.

STRESS (ANXIETY):
ADAPTIVE (NORMAL) PHYSIOLOGICAL REACTION
THAT OCCURS WHEN WE PERCEIVE DANGER

ALARM SYSTEM (AMYGDALA) ACTIVATED



INFORMS COMMAND CENTER (HYPOTHALAMUS)

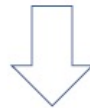


NERVOUS SYSTEM



"FIGHT OR FLIGHT"

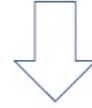
GAS PEDAL



NON-ESSENTIAL
FUNCTIONS SHUT DOWN

"REST & DIGEST"

BREAK



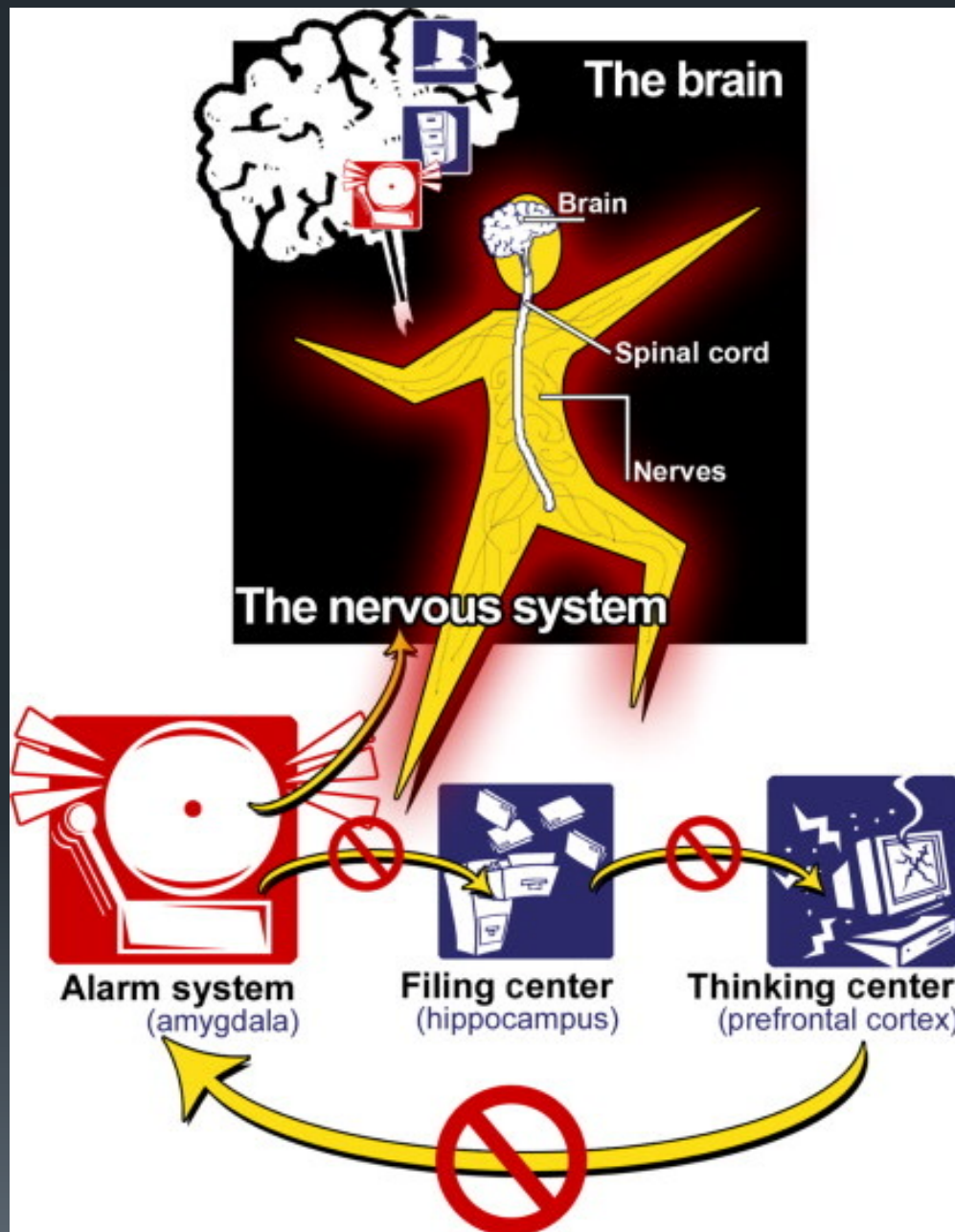
NON-ESSENTIAL
FUNCTIONS RESUME

STRESS HORMONES FALL



AMYGDALOID ACTIVATION

- Arouse from extreme stress & external anxiety.
- Adrenal Gland triggers epinephrine & norepinephrine.
- Strengthens memory expression of emotional arousal.
- The more extreme the amygdala arousal, the stronger the memories impact.
 - Examples:
 - When did president Eisenhower die?
 - When did president Kennedy die?
 - Where were you on 9/11/2001?





OVERSTIMULATED AMYGDALA

- Summary

- The amygdala is responsible for survival-related identification.
 - Tagging memories with emotion
- After the trauma, the amygdala can get caught up in a highly-alert & activated loop, during which it looks for & perceives threats everywhere.

“Nah, man. Night shift is pretty easy.”

- Derek, age 24



HOW DOES YOUR BRAIN CHANGE WITH STRESS?

- Hippocampus shrinks
 - This area helps us distinguish between past & present memories.





HIPPOCAMPUS

- Gateway to limbic system
- Involved in motivation, emotion, learning & memory
- Memory & emotion are integrated
- Under severe stress, the stress hormones that affect the strength of memory consolidation are secreted.
- Norepinephrine
 - Excessive stimulation of amygdala & interferes with hippocampal function.
- Memories are stored in sensory motor & sensation visual images.
- Episodic memories are formed in the hippocampus and then filed away into long-term storage throughout other parts of the cerebral cortex.
- The hippocampus always plays a role in spatial navigation and has also been associated with learning and emotions (Tyng, Amin, Saad, & Malik, 2017).



UNDERACTIVE HIPPOCAMPUS

- An increase in the stress hormone, glucocorticoid, kills cells in the hippocampus & renders it less effective in making somatic connections necessary for memory consolidation.
- The interruption keeps both the body & mind stimulated & in a reactive mode, as neither element receives the message that the threat has formed into the past tense.

HIPPOCAMPAL TEMPORAL MEDIATION

- Differentiate past from present
- Backfires
 - Examples:
 - Child's death in a movie
 - Explosion in a movie
- Can't differentiate the past from the present



HIPPOCAMPAL CONTEXTUAL MEDIATION

- Unable to differentiate dangerous situation from situation without danger.
- Bear in the zoo from bear in the backyard.



ADAPTIVE INFORMATION PROCESSING

- Hippocampus integrates memory & emotion.
 - Neurons are then associated with similar neuronal maps.
 - Maps are then set to associate ones of the cortex.
- When stress stimuli are too great, the associated neural maps are not linked & move forward.
- There is fragmentation or non-integration.
- Temporal context & contextual context are frozen.




PREDICTION ERROR

- Frozen in sensory motor areas & the amygdala.
- Excessive norepinephrine shrinks the hippocampus.
- Prevent the signal from moving into the cortex & association with the most adaptive neuronal mapping.
- Your amygdala triggers your natural alarm system
- Those with PTSD tend to have an overactive response, so something as harmless as a car backfiring could instantly trigger panic. Your amygdala is a primitive, animalistic part of your brain that's wired to ensure survival. So when it's overactive, it's hard to think rationally.



PREDICTION ERROR

- Time
 - Past/present.
- Context
 - Danger/safe.
- Self
 - “I’m not good enough.”
 - “I’m worthless.”
 - “I’m incompetent.”
 - “I should have done something.”
 - “I am not safe.”
 - “I am not in control.”
 - “I am a failure.”
 - “I am helpless.”



What are some useful coping strategies that work for you?

- Write down and categorize



What coping mechanisms are not useful to you?

- Write down and categorize



How EMDR Works

<https://www.youtube.com/watch?v=hKrfH43srg8>



COPING MECHANISMS

- Diaphragm Breathing

1. Place temperature thermistor on little finger of non-dominant hand
 - Reason: when we are in a flight/fight response, blood flows away from the extremities causing the fingers & hands to get colder. We use the non-dominant hand & little finger because they are the most difficult to condition; if we can bring warmth back into the little finger of the non-dominant hand, it can be done for the other fingers.
2. Have a graph & put 0 where the baseline temperature starts & put a dot where it ends.
3. A stressed-out state is a temperature in the 70's.
4. Intermediate state is a temperature in the 80's.
5. A relaxed state is a temperature in the 90's.



COPING MECHANISMS

Diaphragm breathing exercise:

You are invited to close your eyes for this exercise, if you feel comfortable doing so.

If you do not wish to close your eyes, you are invited to lower your gaze to a spot in front of you or a spot on a wall nearby.



COPING MECHANISMS

- Diaphragm breathing exercise:
 - Place hand 1 inch below navel
 - Inhale
 - Feel hand move up
 - Exhale
 - Feel hand move down
 - Focus in the present
 - Experience whatever comes to you when you inhale
 - Release when you exhale

COPING MECHANISMS: AUTOGENIC RELAXATION PHRASES

- Heaviness Phrases

- I feel quiet
- I am beginning to feel quite relaxed
- The muscles in my toes and feet feel heavy and relaxed
- The muscles in my calves, thighs, hips, waist, abdomen, solar plexus...
 - Continue moving through your body (take 1-2 minutes)

- Warmth Phrases (for hands and fingers)

- I am quite relaxed
- My arms and hands feel heavy and warm
- I feel quite quiet
- My whole body is relaxed and my hands are warm, relaxed and warm
- I can feel the warmth flowing down my arms into my hands
- My hands and fingers are warm, pleasantly warm
 - Continue moving along this feeling of warmth in the hands and fingers (1-2 minutes)

- Warmth Phrases (for feet and toes)

- I feel quite quiet
- My legs, feet and toes feel heavy and warm
- I am quite relaxed
- My whole body is relaxed and my feet feel warm and relaxed
- I can feel warmth flowing down my legs into my feet and toes
 - Continue moving along this feeling of warmth in the feet and toes (1-2 minutes)

- Quietness phrases (for calming the mind)

- My whole body feels relaxed and my mind is quiet
- I release my attention from the outside world and I feel serene and still
- My attention is turned inward and I feel at ease
- Gently, I can visualize, imagine and experience myself as relaxed and still
 - Continue moving along as your body is relaxed and feeling your mind calm (1-2 minutes)

- Reactivation Phrase

- The relaxation is now concluded and the whole body is reactivated with a deep breath and the following phrases: I feel life and energy flowing through my toes, feet, calves, knees, thighs, hips, waist, abdomen, solar plexus, chest, shoulders, arms, hands, fingers, neck, jaws, lips, and head. ...




RESILIENCY

- Resilience is the ability to:
 - “bounce back”
 - “pick yourself up from the ground if you’ve been dealt some blows”
- Talk about ways to cope effectively with adverse conditions.
- Includes various properties:
 - Optimistic
 - Having confidence in yourself.
 - Believing in yourself to overcome things.
 - Having skills you need such as social support, ability to find meaning/purpose in life.



“Daring as it is to investigate the unknown, even more so what is to question the known”

- Kaspar



What is required to make a change?

- Give examples of how you are able to make changes



Barriers to Change

- Discuss your barriers to change



“TOUCH OF GREY”

"Touch of Grey" -The Grateful Dead