



Jo Terry

**President
Chip Terry Fund**





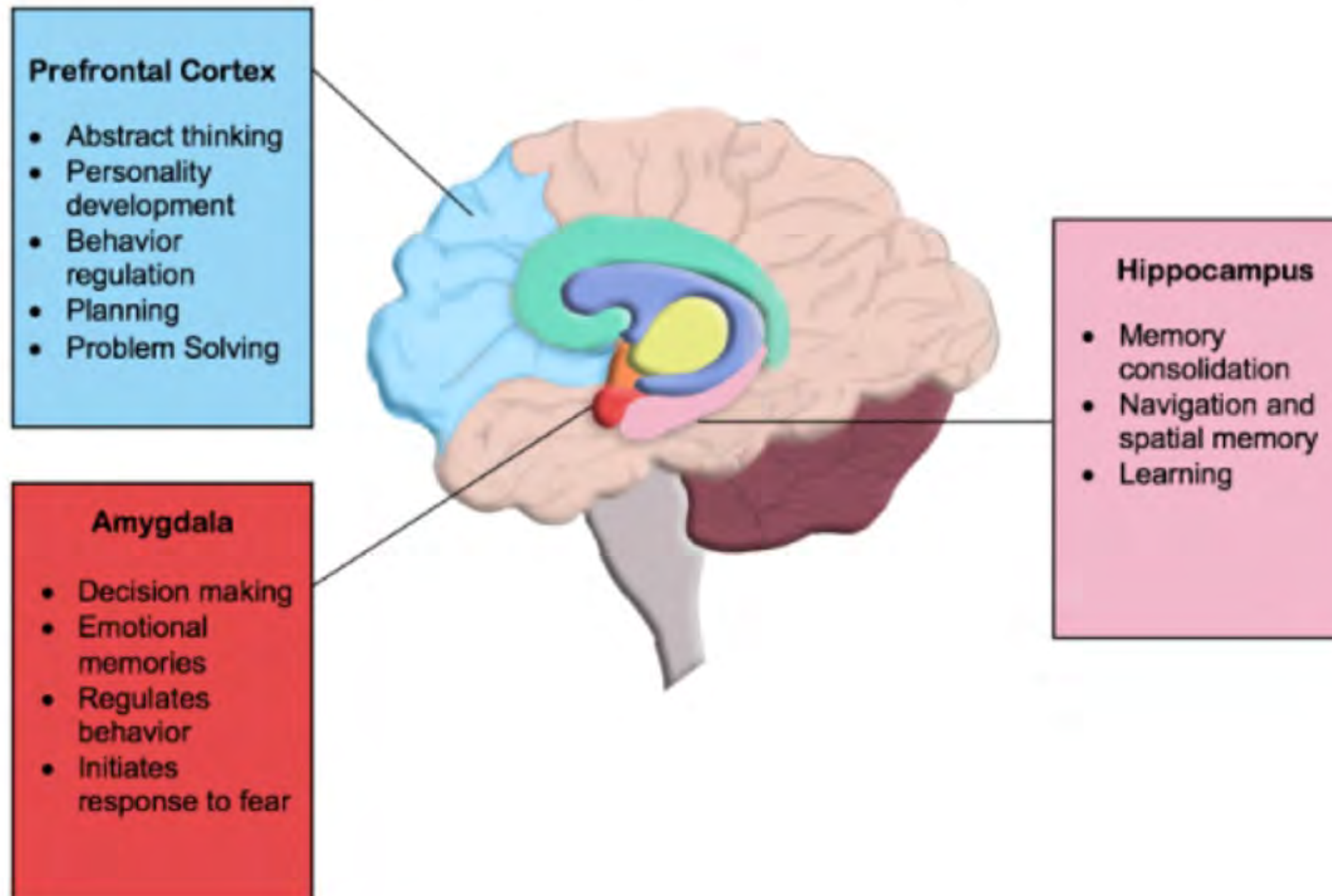
TRAUMA AND ITS EFFECT ON FIRST RESPONDERS AND THEIR FAMILY

The Chip Terry Story



Anatomy of the Brain

Three Primary Brain Regions Affected by PTSD and Their Functions



SYMPATHETIC NERVOUS SYSTEM

- Reactive Mode – increases stress hormones
- Shuts down all non-essential processes of the body and mind

Results: Accelerates heartrate and respirations; converts glycogen to glucose for energy

Fight/Flee/Freeze

PARASYMPATHETIC NERVOUS SYSTEM

- Responsible for restorative mode
- Reduces stress hormones

Results: slows respiration and heart rate

Feed/Breed/Rest

Effects of Stress Hormones

- Weight gain
- Chronic fatigue
- Anxiety
- Depression
- Low libido
- Irritability
- Headaches
- Gut issues
- Compromised immunity
- Heart Disease
- Diabetes
- Cancer

Normal Response to Trauma

- Threat:

- Limbic system takes control: reactive mode
- Non-essential body/mind processes shut down
- Sympathetic nervous system: fight or flight

- Threat Ceases:

- Parasympathetic nervous system: restorative mode
- Reduces stress hormones
- Brain shifts back to normal

PTSD Response to Trauma

- Threat:
 - Limbic system takes control: reactive mode
 - Non-essential body/mind processes shut down
 - Sympathetic nervous system: fight or flight
- Threat Ceases:
 - Shift from reactive to restorative mode never occurs
 - Holds the individual in a constant reactive state

What is PTSD?

- Civil War: Soldiers heart; exhaustion
- WWI: Shell shock
- WWII: Combat fatigue; Gross stress reaction
- Today: Post-traumatic stress disorder



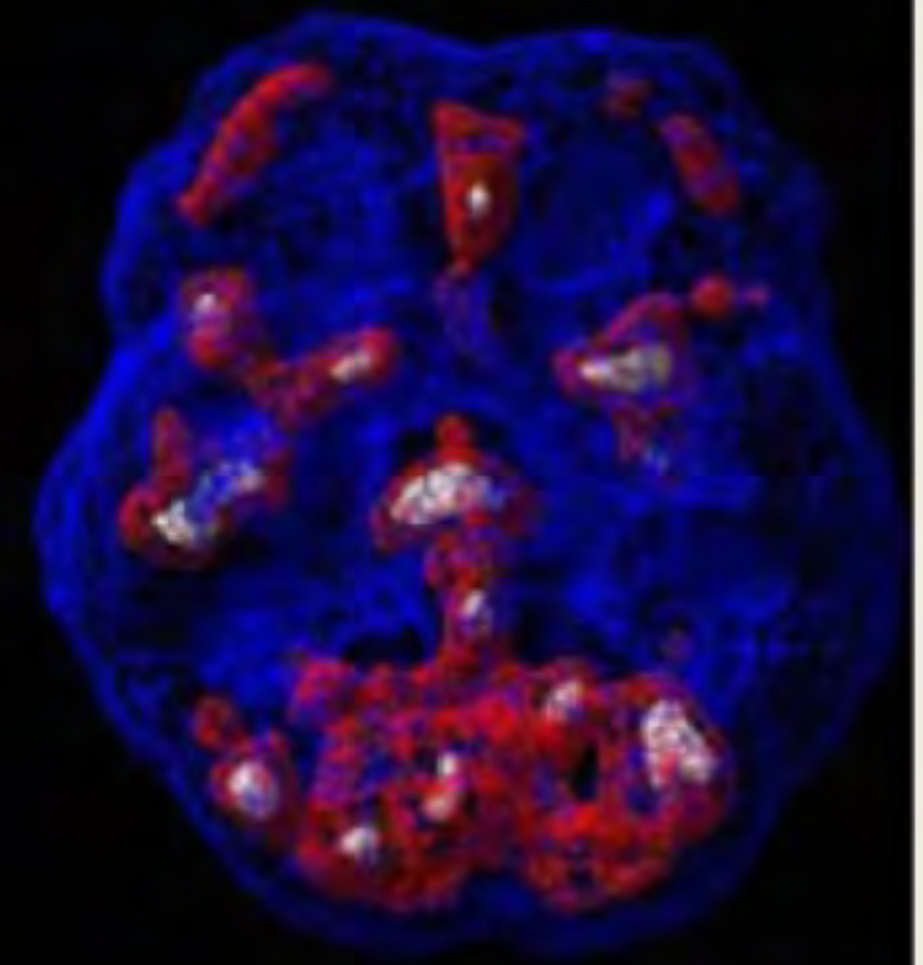
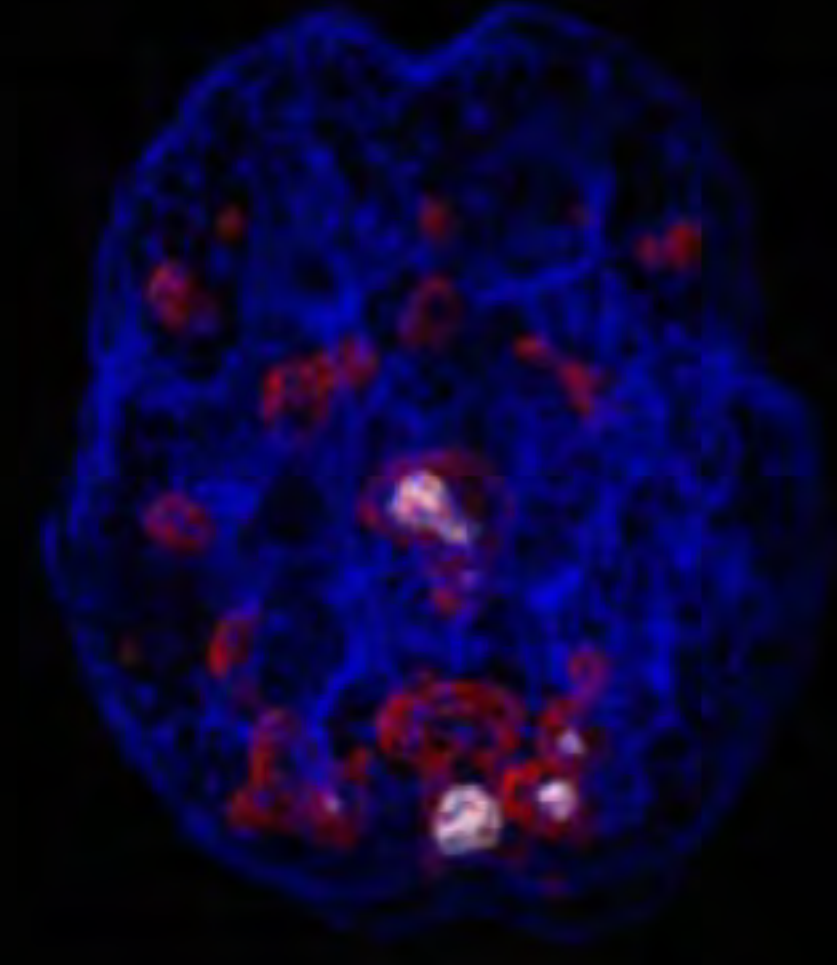
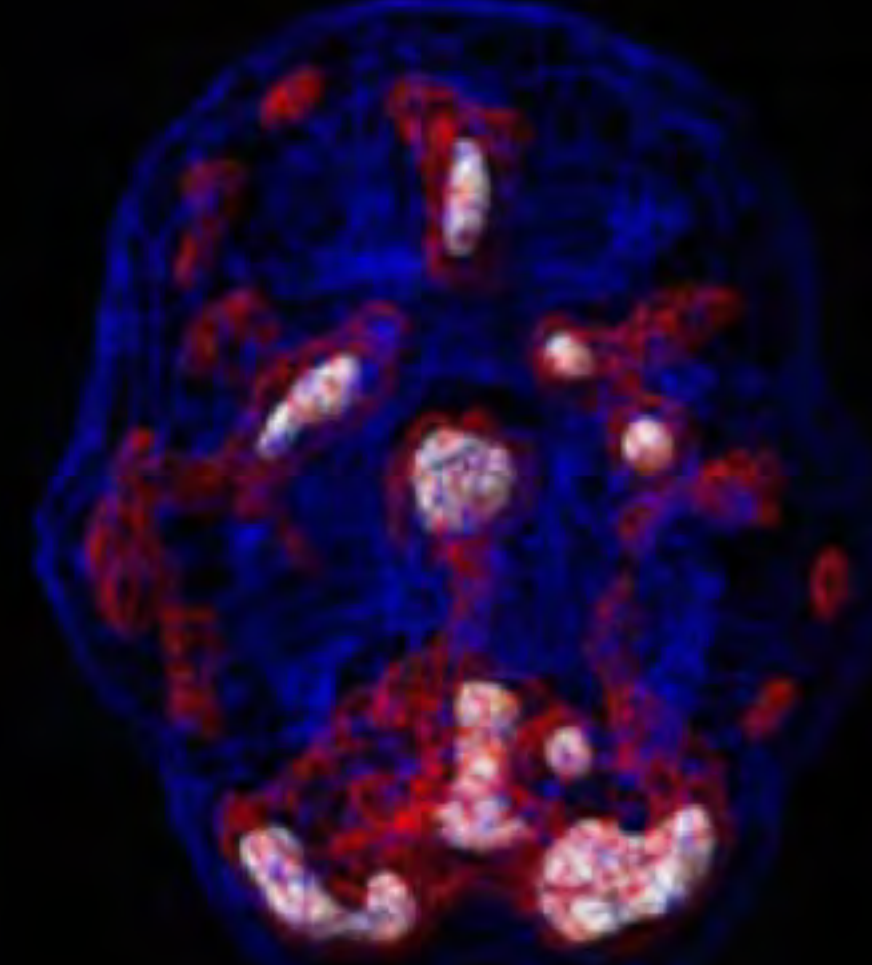
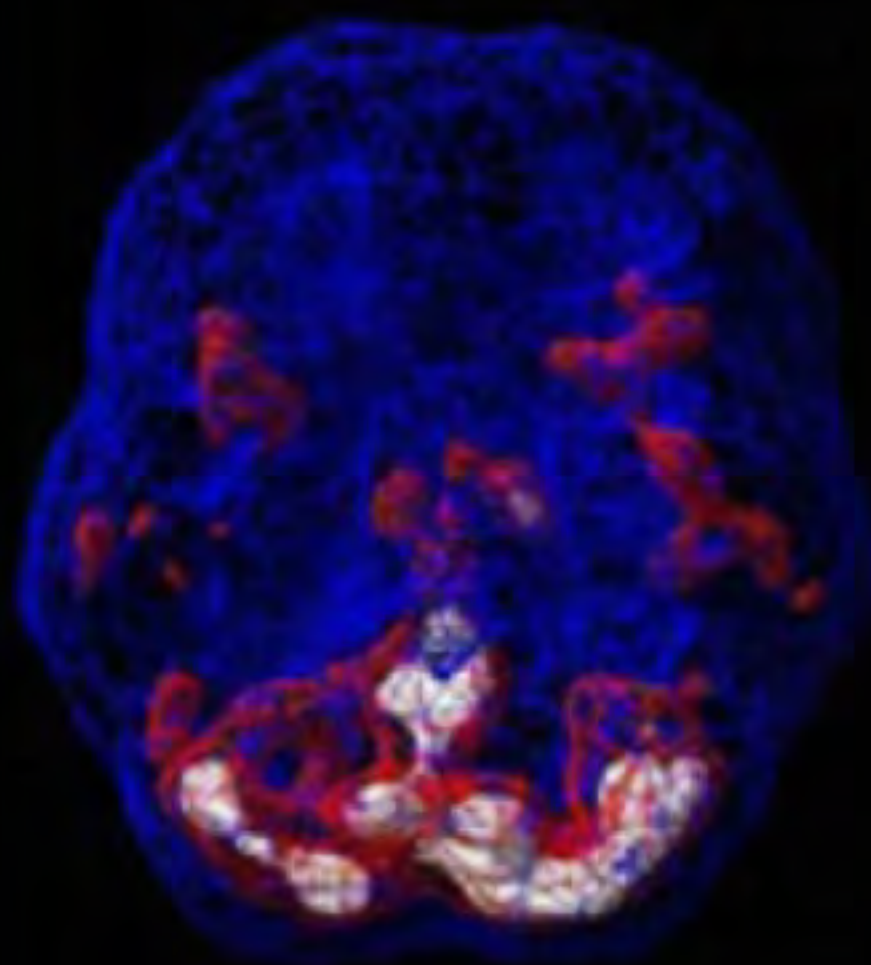
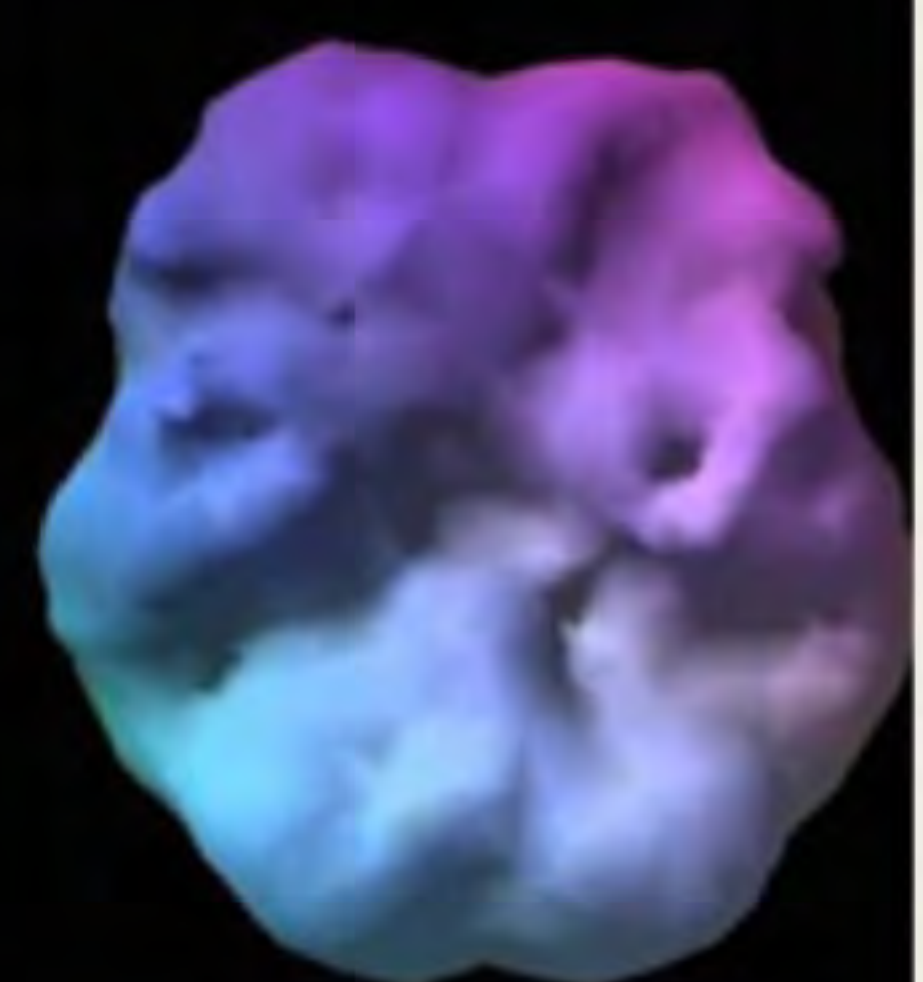
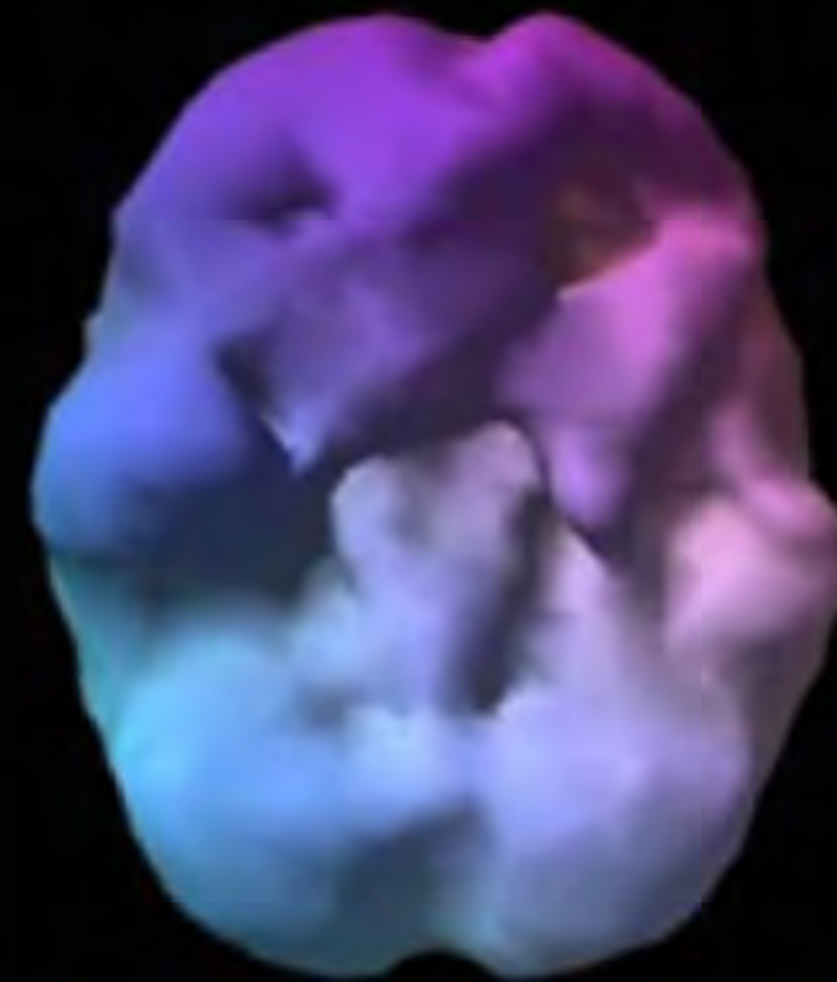
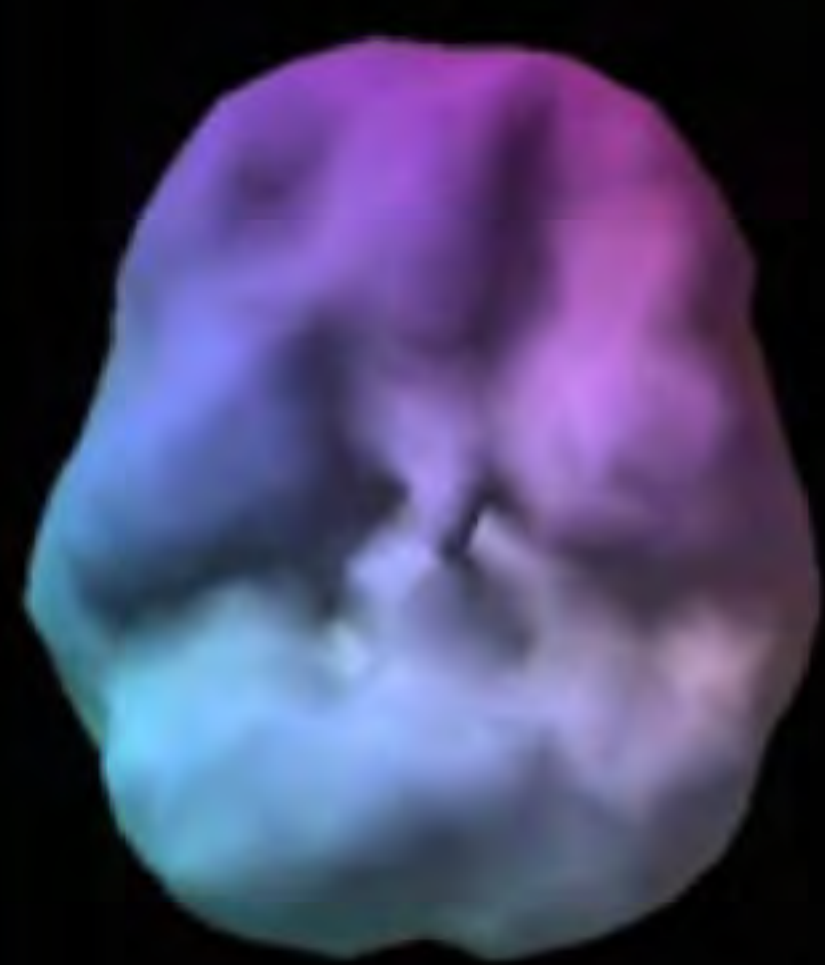
What happens to the brain with PTSD?

- PTSD causes your brain to function in danger mode – high alert
- Amygdala enlarges – responsible for fight or flight
- Hippocampus shrinks – responsible for memory
- Prefrontal Cortex shrinks – responsible for planning, decision making and focus

RESULTS:

- The Thinking Center is under-activated
- The Emotional Center is under-activated
- The Fear Center is OVER-activated

Healthy vs Classic PTSD vs TBI vs Both



Healthy

Classic PTSD

Classic TBI

TBI & PTSD

First Responder Stressors

- Chronic fatigue levels
- Cumulative stress because of repeated exposure to trauma
- Exposure to mass violence and destruction
- Prolonged or failed rescue operations
- Repeated exposure to death, dismembered body parts and human remains, which may include those of fellow first responders.
- Seeing a peer or partner killed or injured in the line of duty
- Witnessing the death of a child

PTSD Symptoms

- Intrusive memories, dreams, or flashbacks of a specific incident
- Refusing to talk about a traumatic event
- Losing interest in activities
- Avoiding places where a traumatic event occurred
- Feelings of hopelessness, guilt, or low self-worth
- Distancing themselves from others
- Feeling tense or on-edge all the time
- Sleep disturbances
- Paranoia or overwhelming fear
- Irritability or aggressive outbursts
- Inability to focus
- Reduced work performance or missed days
- Increased alcohol or drug consumption
- Unreasonable reactions to average situations
- Risky, dangerous, or self-destructive behavior

PTSD/Suicide Statistics for First Responders

	FIRE FIGHTERS	POLICE OFFICERS	GENERAL POPULATION
PTSD	14.6 – 22%	35%	6.8%
DEPRESSION	11%	9 – 31%	6.7%
SUICIDAL THOUGHTS	46.8%	7.8%	UNKNOWN

Heyman, Miriam, et al. "The Ruderman White Paper on Mental Health and Suicide of First Responders." Ruderman Family Foundation, Apr. 2018.

FIREFIGHTER STATISTICS

	2016	2017	2018	2019	2020
LINE OF DUTY DEATHS	67	60	64	58	140 (78 Covid)
SUICIDES	156	127	119	147	129

Dill, Jeff. "FF, EMS & CS Suicide Deaths by Year & Type « Firefighter Behavioral Health Alliance." Firefighter Behavioral Health Alliance, [http://www.ffbha.org/ff-ems-suicide-deaths-by-year type/](http://www.ffbha.org/ff-ems-suicide-deaths-by-year-type/).

POLICE STATISTICS

	2016	2017	2018	2019	2020
LINE OF DUTY DEATHS	174	174	163	134	264
SUICIDES	108	140	165	228	174

Four Categories of PTSD

Intrusive Thoughts	Mood Alterations	Hypervigilance	Avoidance
Unwanted memories	Shame/Blame	Neurotic behavior	Withdrawal
Flashbacks	Argumentative	Irritable or aggressive	Re-routing
Nightmares	Persistent Negativity about self/world	Sleep disturbance	
	Diminished interest in activities/alienated	Self destructive	

Knapp, Emily. "Signs of PTSD." IAFFRecoveryCenter.com, <https://www.iaffrecoverycenter.com/behavioral-health/ptsd/>.

Withdrawal



Healing the Brain

- PTSD causes the brain to perceive threat where there is none
 - Reactive mode
- For an injured brain to heal, you must be in the parasympathetic nervous system
 - Restorative mode
- Flashbacks and nightmares
 - Attempt at healing
- Therapists facilitate the healing process
 - Open the mind to healing

Stress Reduction to Reduce Cortisol

- Exercise
- Talking
- Meditation
- Yoga
- Active decompression

Common Evidence Based Treatments

- Cognitive Behavioral Therapy
- Cognitive Processing Therapy
- Prolonged Exposure
- Eye Movement Desensitization and Reprocessing (EMDR)

New Methods Being Researched

- Stellate Ganglion Blocks (SGB)
- Neuro Feedback
- Psychedelics- LSD, mushrooms
- Ketamine Injections

SGB: The Neck Jab



- Over 30 individuals
- Must be diagnosed with PTSD by a mental health clinician
- Reduction in anxiety, hypervigilance and anger

- BA in Music from NKU
- MA in Organizational Leadership
- Covington Firefighter from 1986 to 2012
- Adjunct professor at UC Fire Science Program

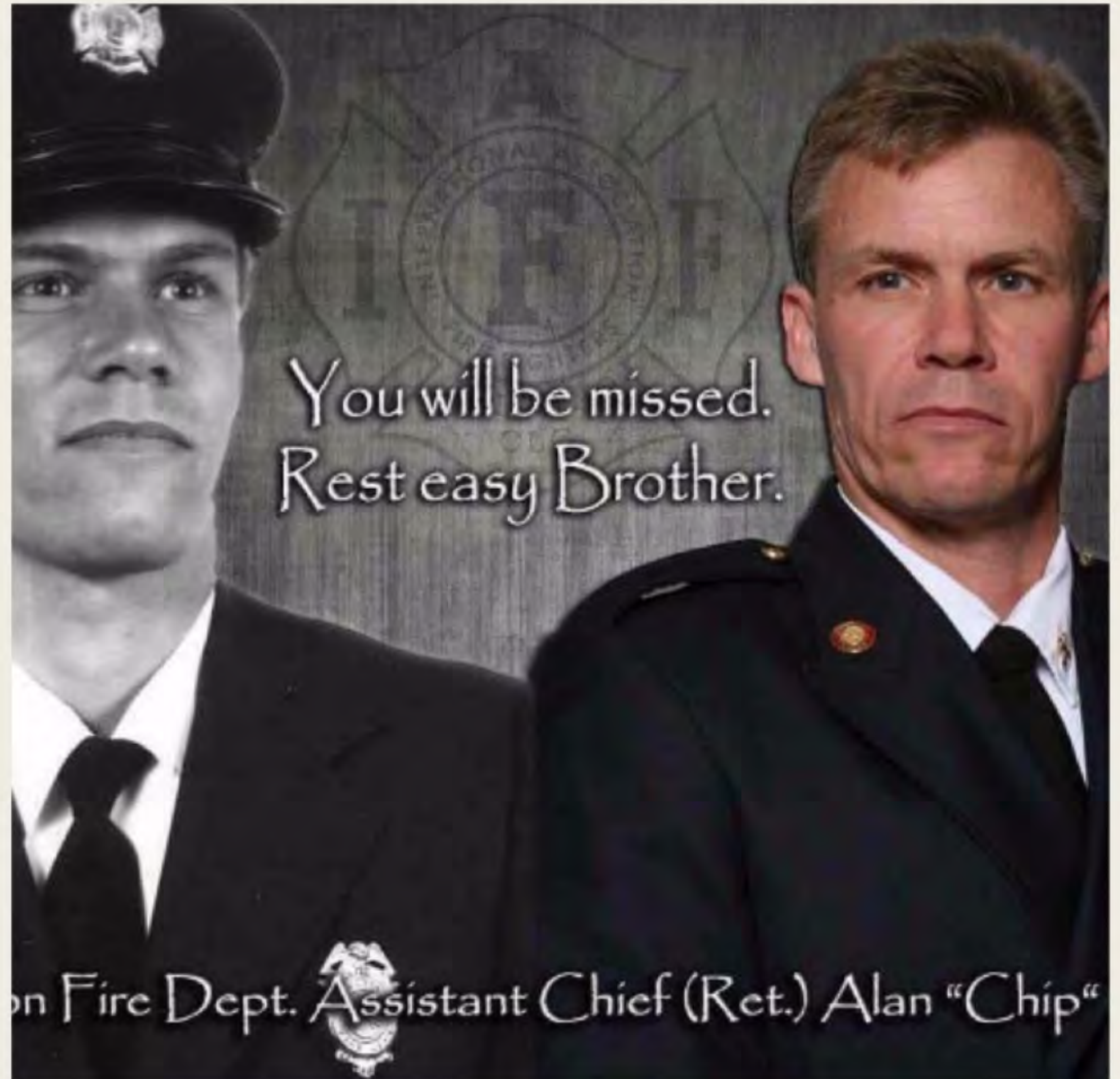






Photo courtesy of Al McLaughlin









THE CHIP TERRY FUND OUTREACH



- Since 2018: 40 first responders assisted with inpatient care; over 150 first responders connected with outpatient clinicians
- Awareness and Prevention seminars
- Fundraisers
- Resiliency programs

KY Fire Commission

\$1.25 million



To participate in the PTSD Reimbursement Program:

- Complete an Application (fillable PDF)
- Complete a Substitute W-9
- Provide signed and dated Medical Diagnosis Certification Form (fillable PDF)

Email forms to Delores Montgomery Collins

Works Cited

Dill, Jeff. "FF, EMS & CS Suicide Deaths by Year & Type « Firefighter Behavioral Health Alliance." Firefighter Behavioral Health Alliance, [http://www.ffbha.org/ff-ems-suicide-deaths-by-year type/](http://www.ffbha.org/ff-ems-suicide-deaths-by-year-type/).

FBI National Press Office. "FBI Releases 2016 Statistics for Law Enforcement Officers Killed and Assaulted in the Line of Duty." FBI, 16 Oct. 2017, <https://www.fbi.gov/news/pressrel/press-releases/fbi-releases-2016-statistics-for-law-enforcement-officers-killed-and-assaulted-in-the-line-of-duty>.

Heyman, Miriam, et al. "The Ruderman White Paper on Mental Health and Suicide of First Responders." Ruderman Family Foundation, Apr. 2018.

Knapp, Emily. "Signs of PTSD." IAFFRecoveryCenter.com, <https://www.iaffrecoverycenter.com/behavioral-health/ptsd/>.

Kulbarsh, Pamela. "Police Suicides In 2016." Officer.com, 11 Jan. 2017, <https://www.officer.com/training-careers/article/12293261/police-suicides-in-2016>.

Rosenthal, Michele. "The Science Behind PTSD Symptoms: How Trauma Changes The Brain." World of Psychology, 27 June 2019, <https://psychcentral.com/blog/the-science-behind-ptsd-symptoms-how-trauma-changes-the-brain/>.

- Jo Terry



- [Thechipterryfund.org](https://thechipterryfund.org)
- Email: info@thechipterryfund.org