

Understanding Changes to the Brain Due to Substance Use Disorders and Trauma

Kim McGinnis, Ph.D., Esq.,
Chief Judge
Pueblo of Pojoaque Tribal Court



1

Trauma Competent Organizations

Understand, recognize, and respond to trauma

Focus on physical, psychological, and emotional safety of participants/clients/staff

Help people rebuild a sense of control and empowerment

http://www.nationalcenterfortraumamh.org/wp-content/uploads/2016/01/NCDOVTMH_PromisingPracticesReport_2015.pdf



2

Trauma Informed Communication

YES	NO
Person with a substance use disorder/person who misuses substances	Addict/Junkie
Substance Exposure	Abuse/Abuser
Sober/Recovery/Remission	Clean
Positive Test/Use	Dirty
Boundaries/Self-care	Enabling
Return to Use/Recurrence	Relapse/Lapse/Slip
Medicine for Addiction Treatment	Opioid Replacement

Recovery Research Institute: recoveryanswers.org

3

3

The People We Work with Are Stressed

- Anxiety about their case
- Thinking about drug of choice
- Loss of Control
- Economic/Food/housing insecurity
- Covid-19
- Return to use
- Trauma response/Unexpected behavior

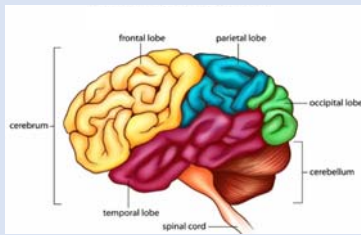


4

4

Changes to the Brain

- Substance Misuse
- FASD
- Trauma
- Toxic Stress
- Historical Trauma
- TBI/Persistent Post-Concussive Symptoms



5

5

Substance Use Disorder

Chronic relapsing brain disease:

- Loss of control over use
- High motivation to get substance
- **Continued use despite negative consequences**



6

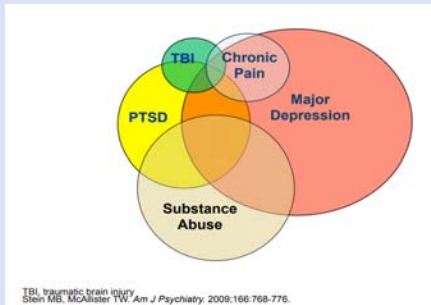
6

Dependence v Addiction



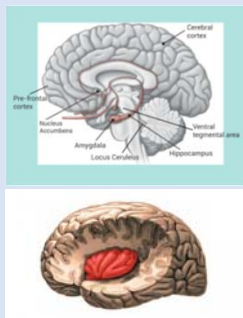
7

Co-occurring Issues



8

- **VTA/NA:** motivation pathway; fundamental needs to be satisfied
- **Basal Ganglia:** associated with habit formation
- **Amygdala:** smoke alarm; emotional information about event; conditioned response; craving; implicit memory
- **Hippocampus:** storage/ retrieval of emotion laden memories with input from amygdala; explicit memory
- **Pre-frontal cortex:** forethought; planning
- **Locus coeruleus:** alarm center
- **Insular cortex:** cravings; monitors body condition; social and physical pain



9

Pre-Frontal Cortex= Brakes

PFC connectivity affected by trauma and SUDs

Behavioral Response

10

10

Motivation Pathway

Dopamine (DA)

Synapse

Dopamine pathways	Serotonin pathways
<ul style="list-style-type: none"> Reward (motivation) Pleasure, euphoria Motor function (fine tuning) Compulsion Persistence 	<ul style="list-style-type: none"> Mood Memory processing sleep Cognition

11

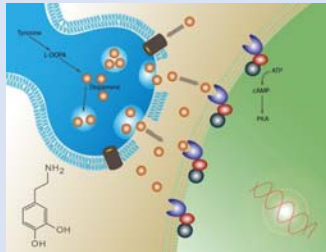
11

Because of changes in the brain, substance misuse moves from pleasure seeking to **relief seeking**

12

12

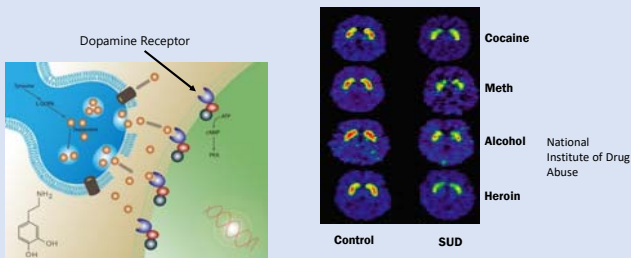
Different Substance = Different Mechanism



13

13

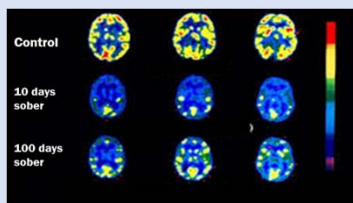
D2 Receptors Down Regulate in Striatum



14

14

Brain Glucose Metabolism Changes (cocaine)



Source: NIDA

15

15

Trauma/Stress Response

- A natural response to an unnatural circumstance
- Brain survival mode/self preservation
- Hypervigilance
- May cause people to act in unexpected ways

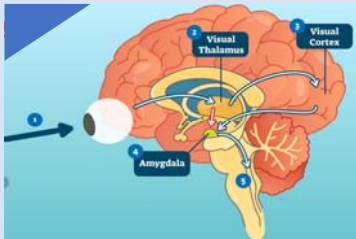


16

16

Threat/Trauma Trigger

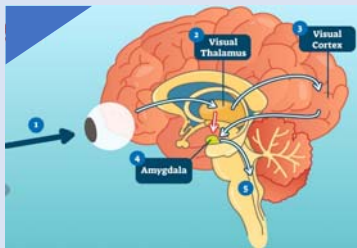
Fight
Flight
Freeze
Surrender



17

17

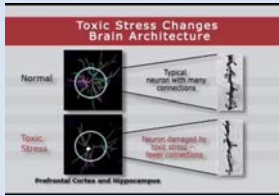
What if the
mountain lion
lives with you?



18

18

Toxic/Chronic Stress/Trauma Remodels the Brain



Center on the Developing Child at Harvard University



Mechanisms by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan
www.cdc.gov/violenceprevention/aces/about.html

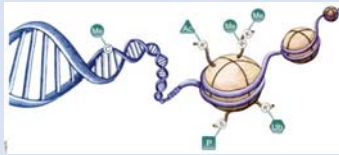
19

19

Epigenetics: Intergenerational Transfer of Risk and Resilience

Historical Trauma is "a constellation of characteristics associated with massive cumulative group trauma across generations"

-Dr. Maria Yellow Horse Braveheart (1999)



20

20

The Brain Can Heal



Source: NIDA

21

21



Healing Happens through Connection and Relationship

22

Treatment



"To be effective, treatment must address the individual's drug abuse and any associated medical, psychological, social, vocational, and legal problems."
National Institute on Drug Abuse Principles of Drug Addiction Treatment



Self-actualization
Ability to become the most that one can be

Esteem
Dignity, self-respect, status, recognition, strength, freedom

Love and belonging
Friends, relatives, family, sense of connection


Safety needs
Personal security, employment, resources, health, property

Physiological needs
Air, water, food, shelter, sleep, clothing, reproduction

23

23

Rat Park/Decrease Social Isolation

24

24

Pro-Social Activities

- Peer Recovery
- Traditional crafts, cultural connections
- Outdoor activities: hiking, fishing, nature walks
- Community Service
- Virtual Gatherings/online games
- Community meals
- Aerobic Exercise



25

25

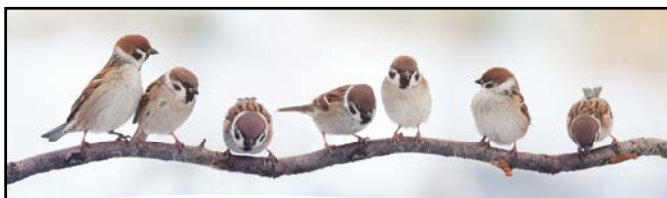
Working Toward a Trauma Competent/Healing Focused Court

- Trauma Training
- Motivational Interviewing Training for All Staff (Including the Judge)
- Seeking Safety or Other Trauma-focused Groups
- Reflective Supervision
- Rules Reduction



26

26



Reflective Supervision

- Understand the participant's story
- Active Listening/Motivational Interviewing
- Collaborate with participant
- What lens is staff looking through?
- Does the Team feel safe with the Judge?
- Does the Judge trust the Team?

27

27

Trauma Informed Communication



- Maintain a calm/patient demeanor (open face)
- Speak slowly and clearly
- Allow plenty of time for the participant to respond

28

28

Rules Reduction in Wellness Court

- ~~No food or drink~~
- ~~No gum~~
- ~~No hats~~
- ~~No sunglasses~~
- ~~No shorts~~
- ~~No swearing~~



Is the rule about safety or support?

Or, is the rule used to exert power and control over the participant?



29

29



Kim McGinnis, PhD

Judge@Pojoaque.org

30

30
