

The Need for a Trauma-Informed Approach: Understanding the Impact of Trauma and Addiction on the Brain

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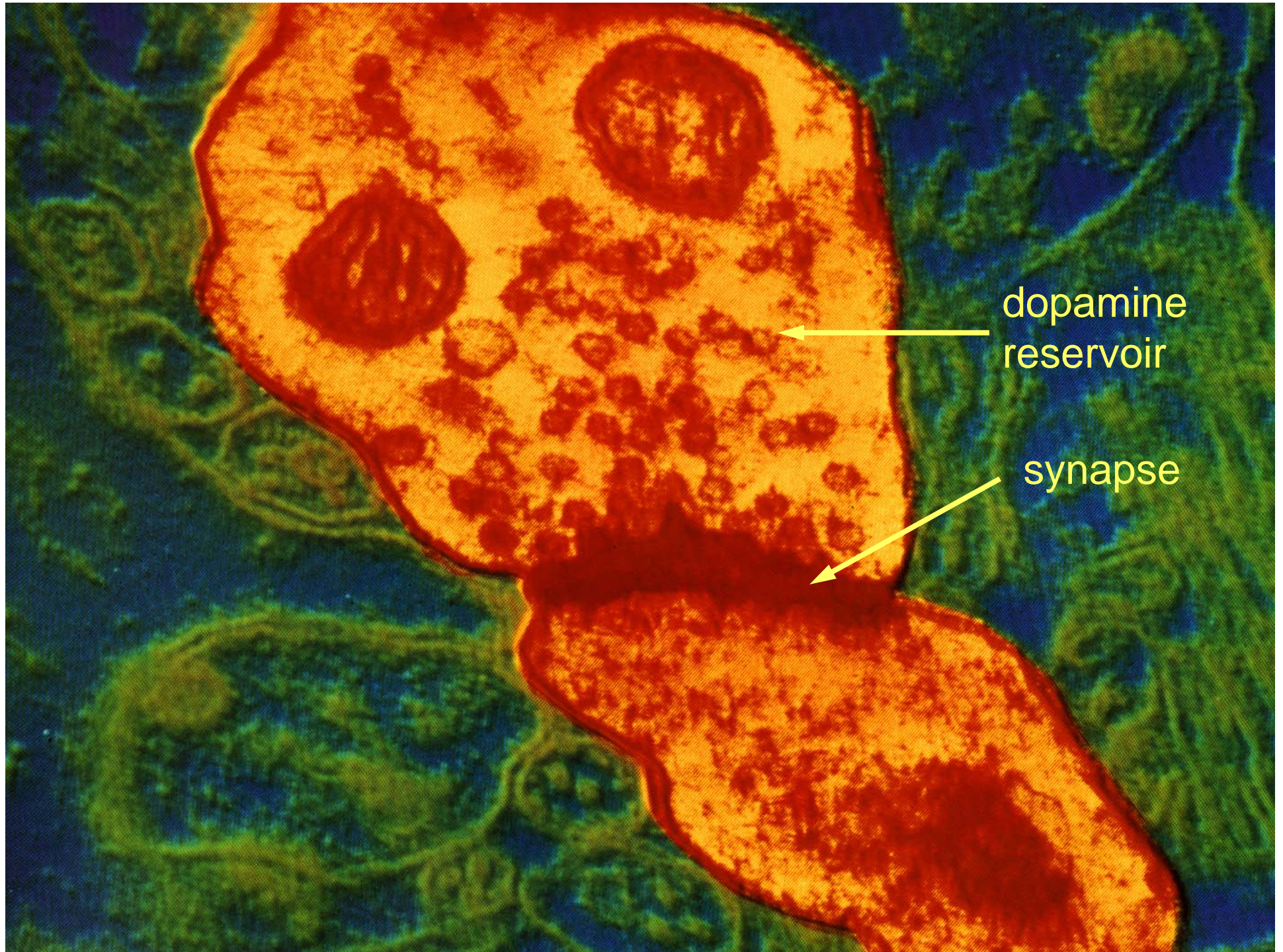


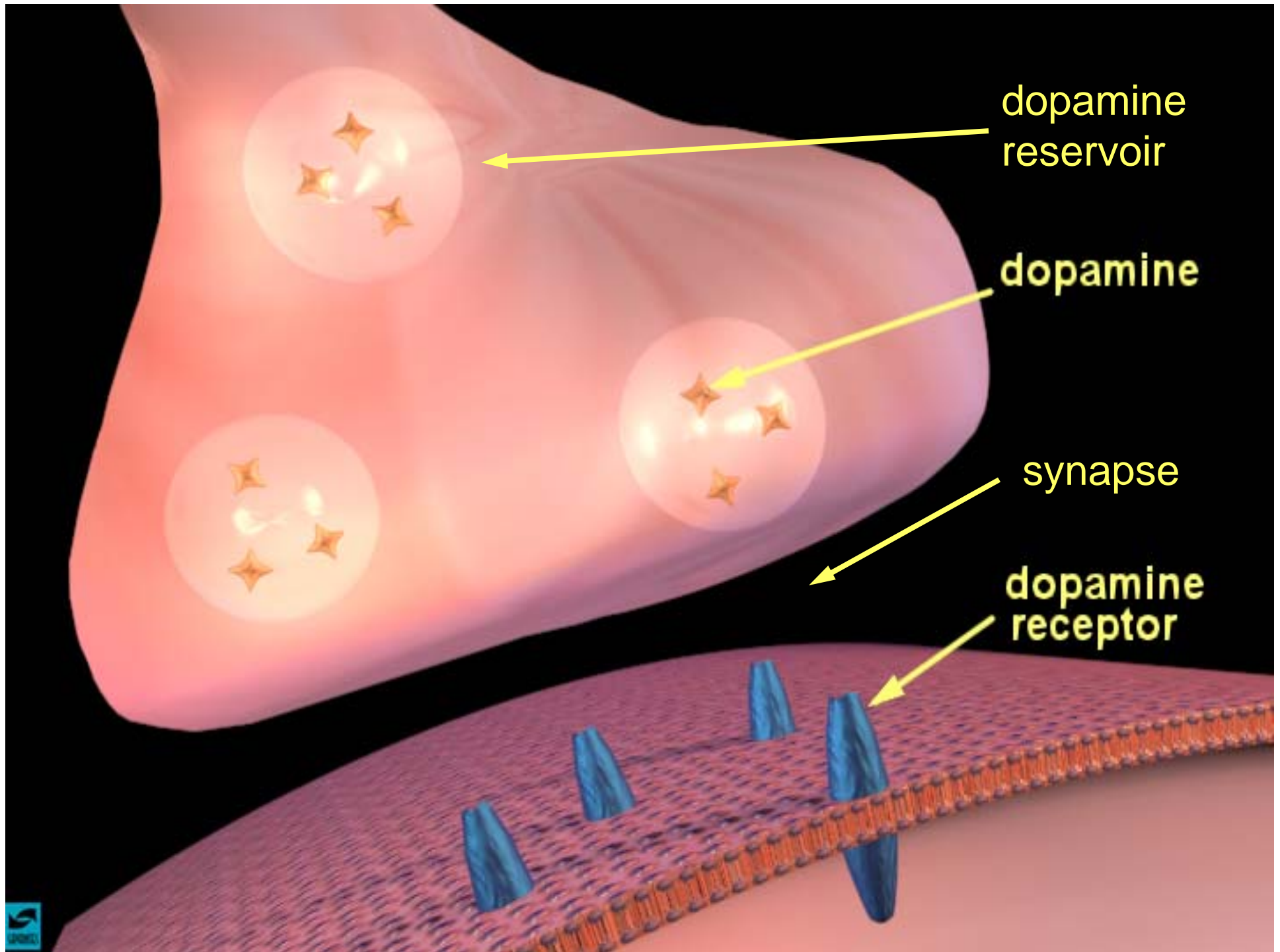
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What we'll cover

- Understanding the brain
- Review definitions of trauma
- Develop understanding of the relation between trauma and substance use
- Identify opportunities to enhance client engagement using a trauma-informed approach

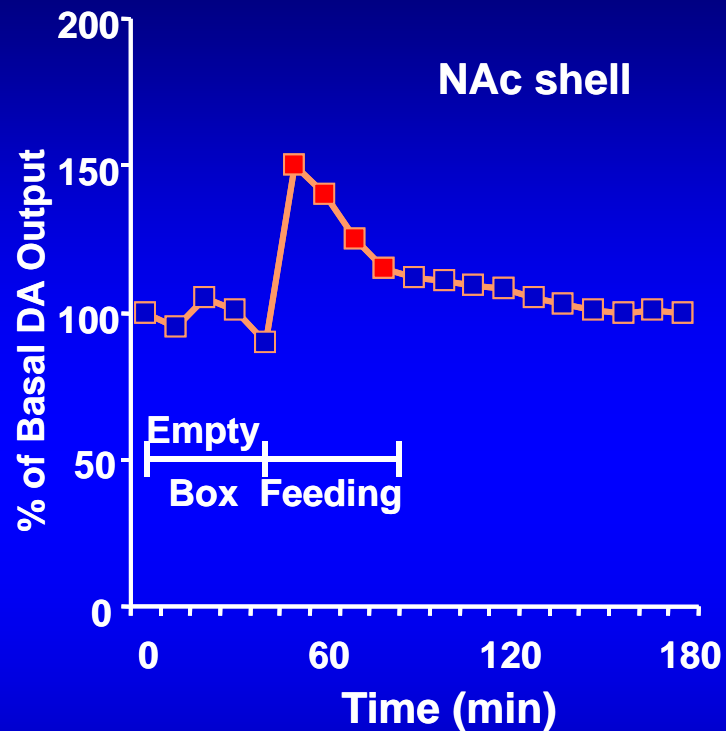
Normal Dopamine Transmission





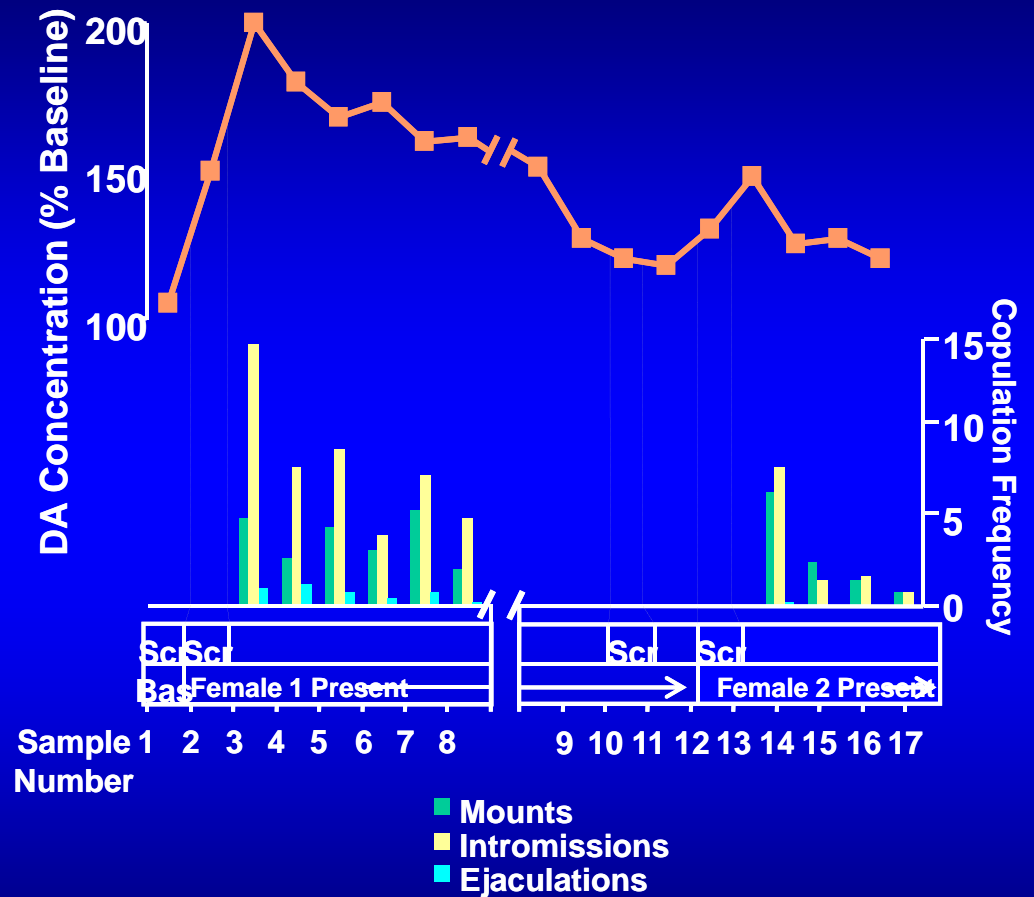
Natural Rewards Elevate Dopamine Levels

FOOD



Source: Di Chiara et al.

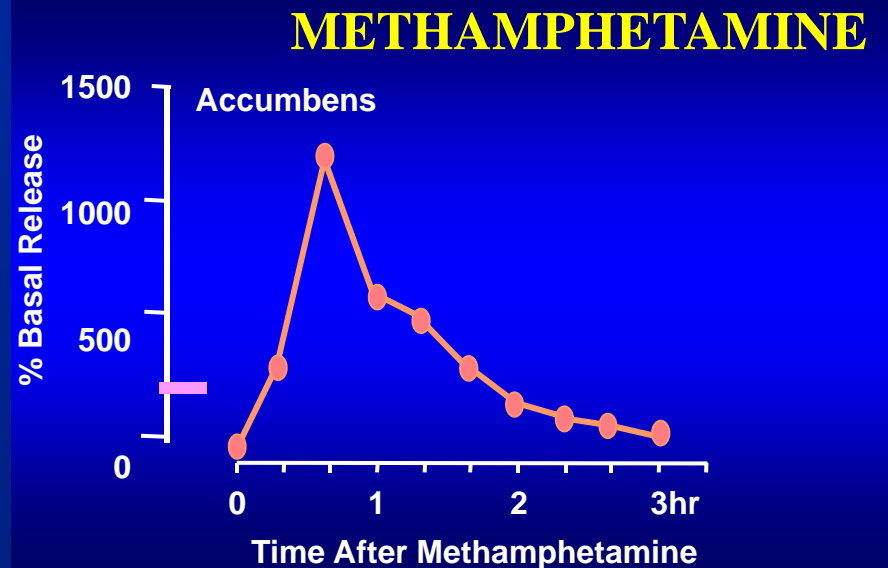
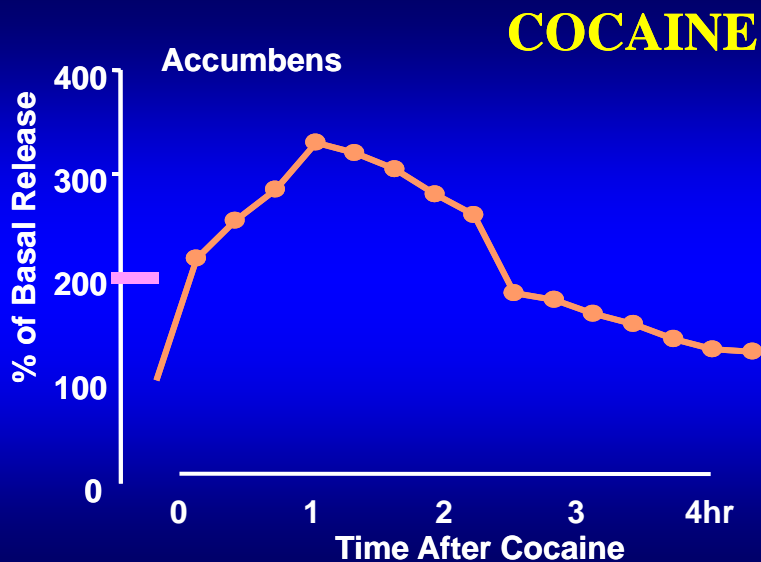
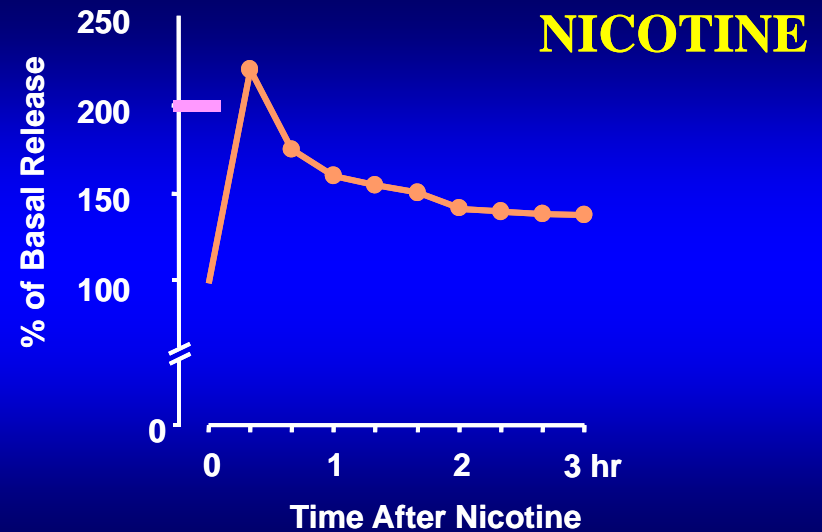
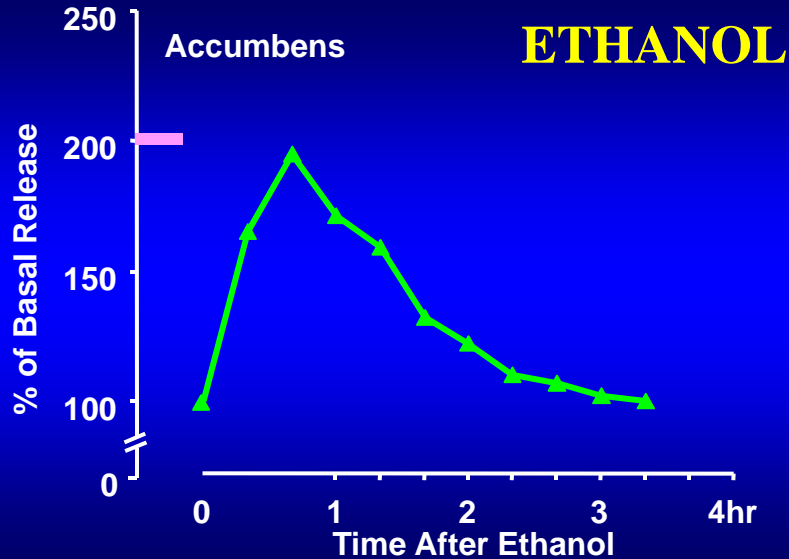
SEX



Source: Fiorino and Phillips

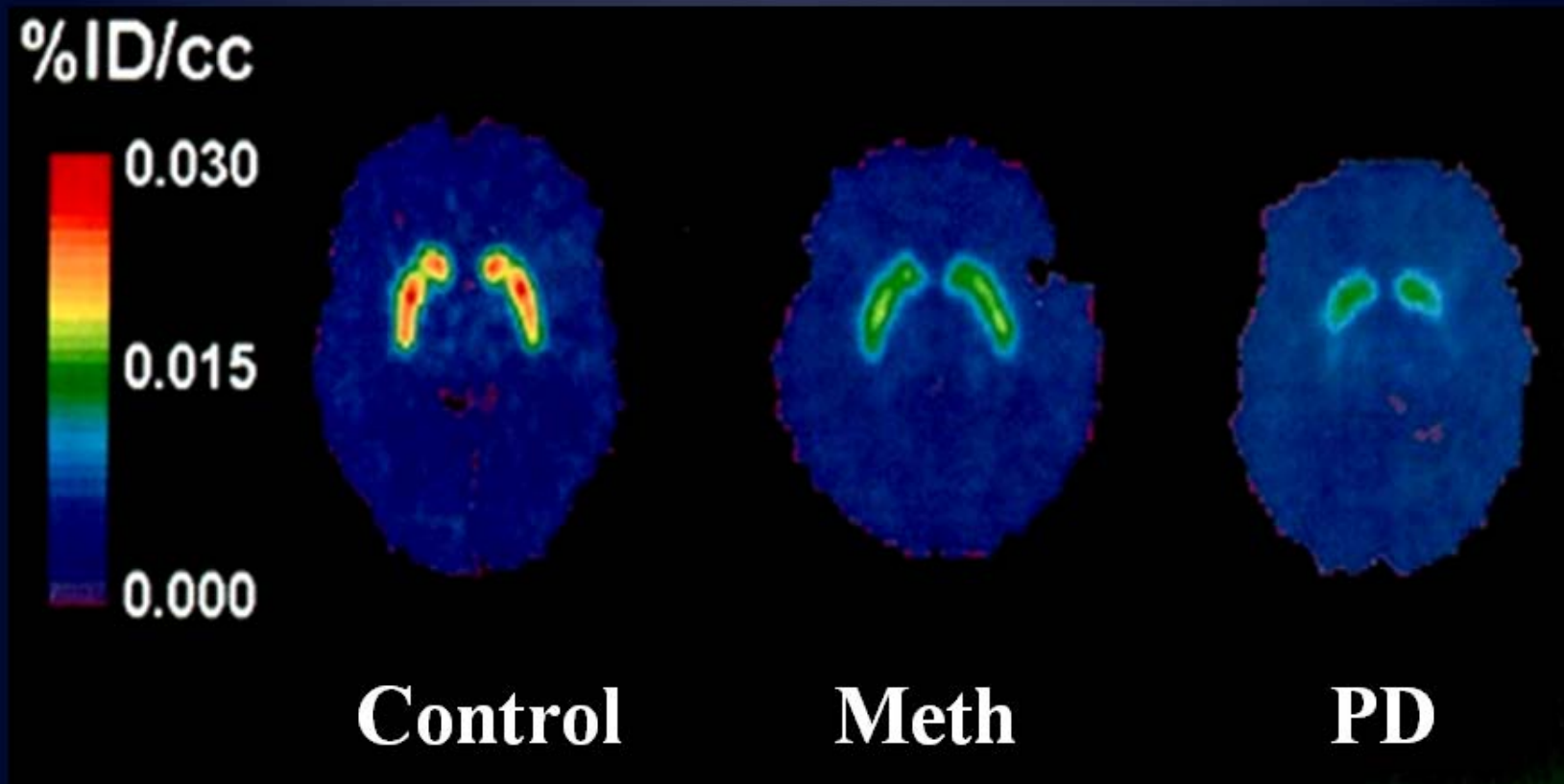
Methamphetamine and Dopamine

Effects of Drugs on Dopamine Release

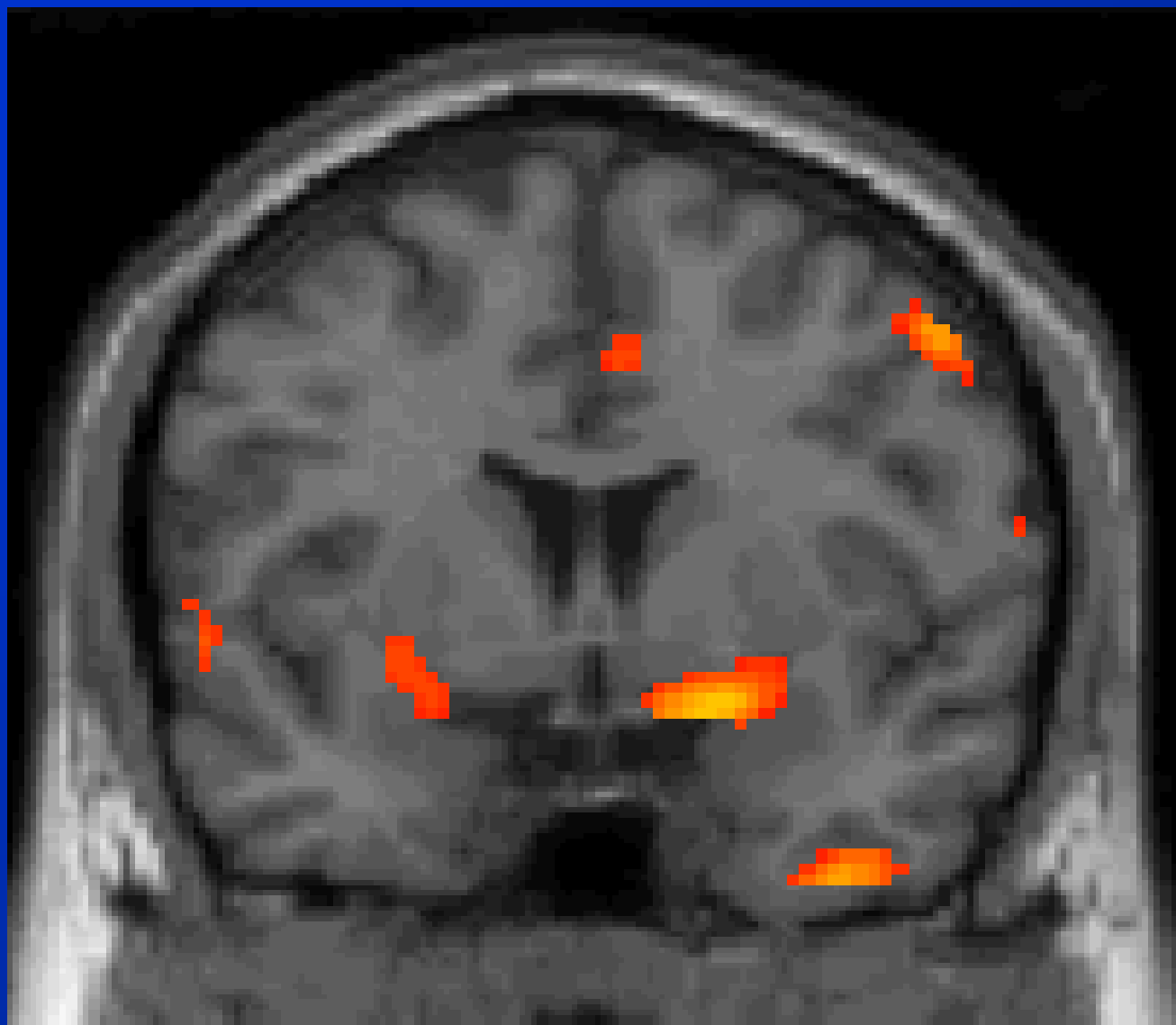


Source: Shoblock and Sullivan; Di Chiara and Imperato

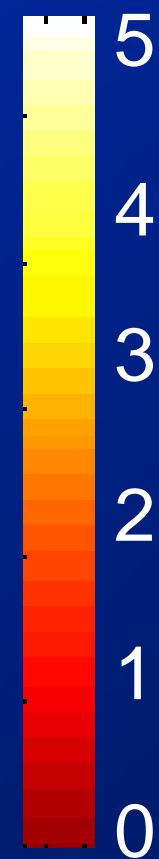
Decreased dopamine transporter binding in METH users resembles that in Parkinson's Disease

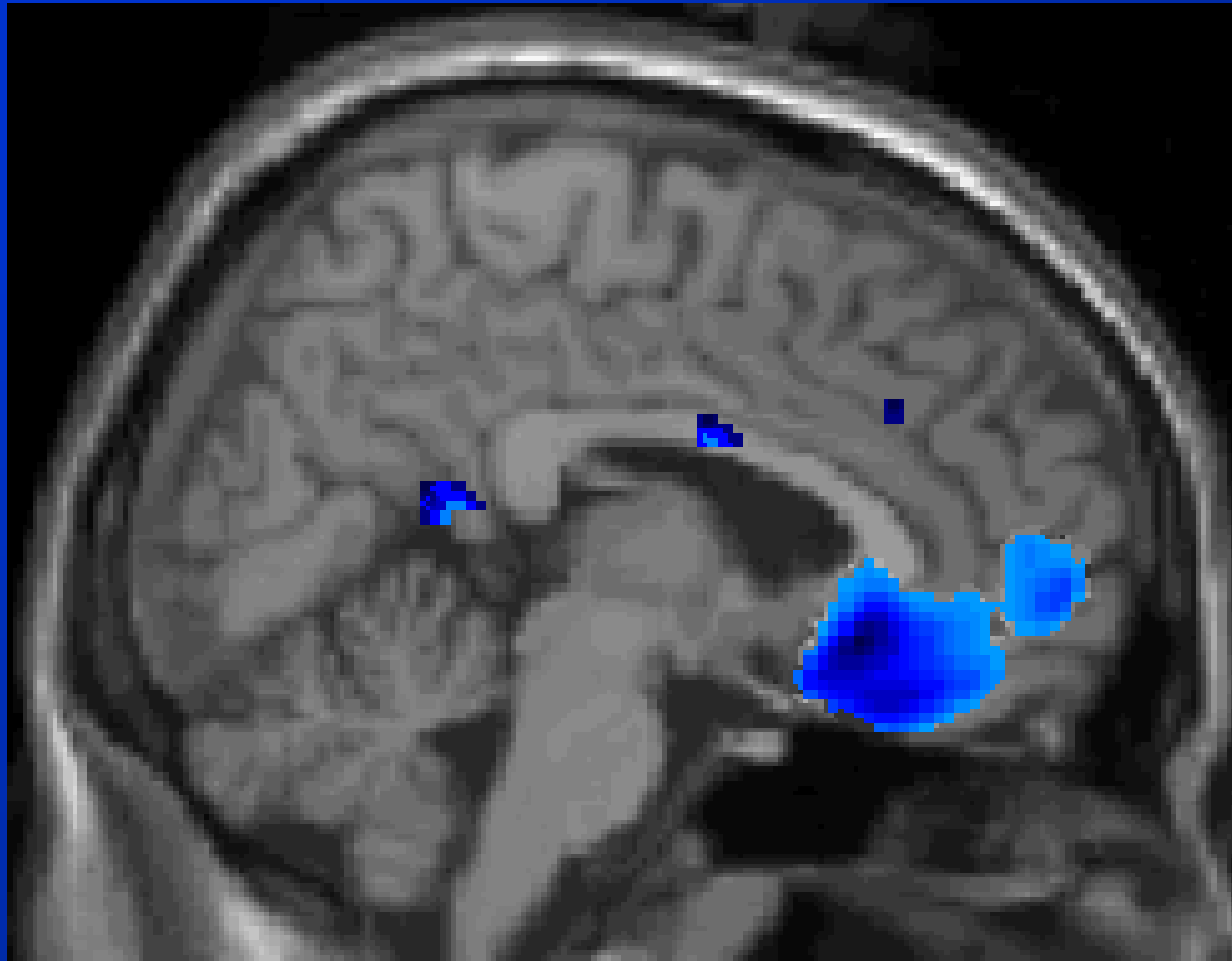


Source: McCann U.D.. et al., *Journal of Neuroscience*, 18, pp. 8417-8422, October 15, 1998.



MA >
Control

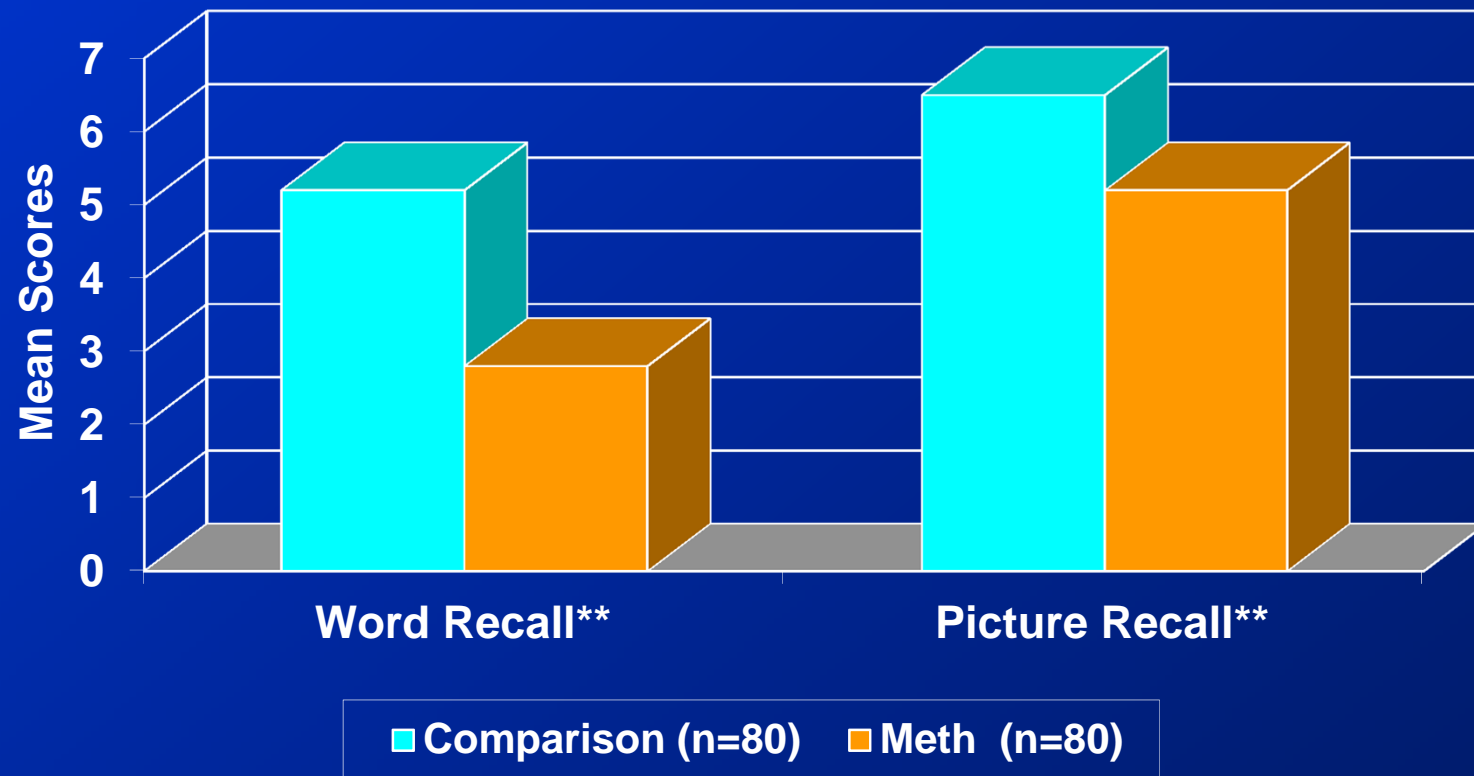




**Control
> MA**



Memory Difference between Stimulant and Comparison Groups



Addiction is, Fundamentally,
A Brain Disease

...BUT

It's Not *Just* a Brain Disease

Vulnerability to addiction differs from person to person

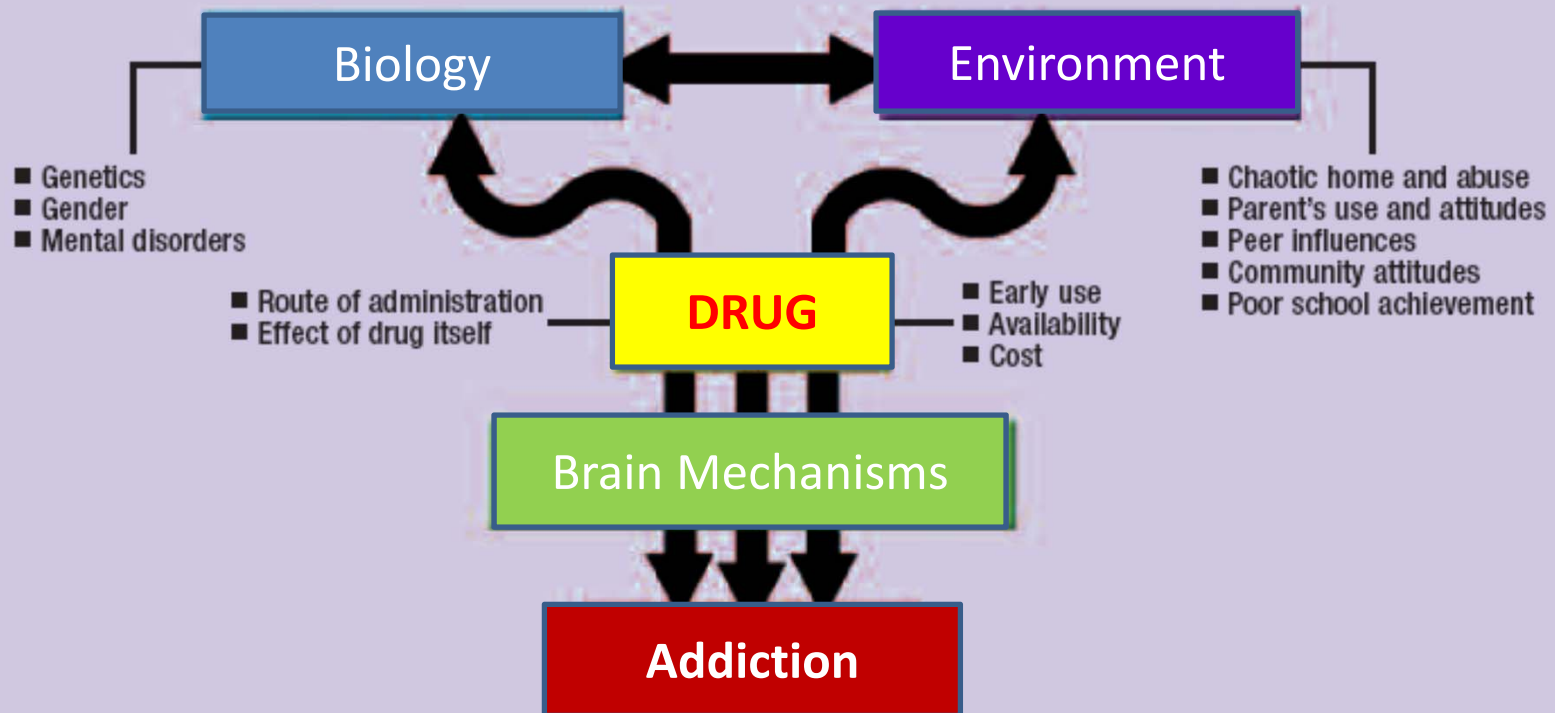
Between 40 and 60 percent of a person's vulnerability to alcohol and tobacco addiction is due to **genetic influences**



Vulnerability to addiction differs from person to person

Environmental factors (e.g., conditions at home, at school, and in the neighbourhood) also play a role

RISK FACTORS



What is Trauma?

DSM Criteria

- DSM-5 Criteria:
 - Exposure to actual or threatened death, serious injury, or sexual violence
 - For adults, includes repeated exposure to details
 - For children, includes events occurring to caregiver
 - Four clusters of symptoms
 - Intrusive symptoms
 - Avoidance
 - Negative alterations to mood or cognition
 - Changes in arousal/reactivity
 - Additional considerations (duration, impairment)

Who experiences trauma?

- 61% of men and 51% of women report experiencing or witnessing a trauma in their lifetime
- Natural disaster or experiencing life-threatening accident ranked highest

(Kessler et al, 1999)

- Second study found:
 - 71.6% reported witnessing trauma
 - 30.7% experienced a trauma resulting in injury
 - 17.3% reported psychological trauma

(El-Gabalawy, 2012)

Trauma in Justice-Involved Populations

- Most estimates identify trauma as a nearly universal experience among people:
 - In public mental health
 - In substance abuse treatment
 - Involved with social services
 - Justice-involved
 - Homeless
- Justice-involved women are more likely than justice-involved men or the general public to have experienced sexual or physical abuse

Trauma in Justice-Involved Populations

- Research on trauma prevalence among offender populations is difficult to narrow down
- Studies show prevalence between 62% and 90%
- Women are statistically safer from victimization in prison than prior (men are not)
- Sexual assault prevalence estimated at 4.4%

Trauma in Justice-Involved Populations

- History of sexual abuse is a risk factor for crime in males and females
- People who have been sexually abused are more likely to be arrested and experience future traumas
- Most commonly reported trauma:
 - Among females: sexual abuse
 - Among males: witnessing someone being killed or seriously injured

Trauma in Justice-Involved Populations

- Higher rates of trauma and **earlier onset of trauma** associated with increased violence and victimization in prison
- Underreporting trauma may be common due to lack of trust or normalization of experiences
- Vicarious trauma or direct exposure to traumatic events (leading to PTSD or burnout) is not uncommon among corrections staff

Review of Trauma



- 3 types of stressors
 - Positive → helping to guide growth
 - Tolerable → not helpful, but not causing lasting harm
 - Toxic → sufficient to overcome one's coping mechanisms and lead to long-term impairment

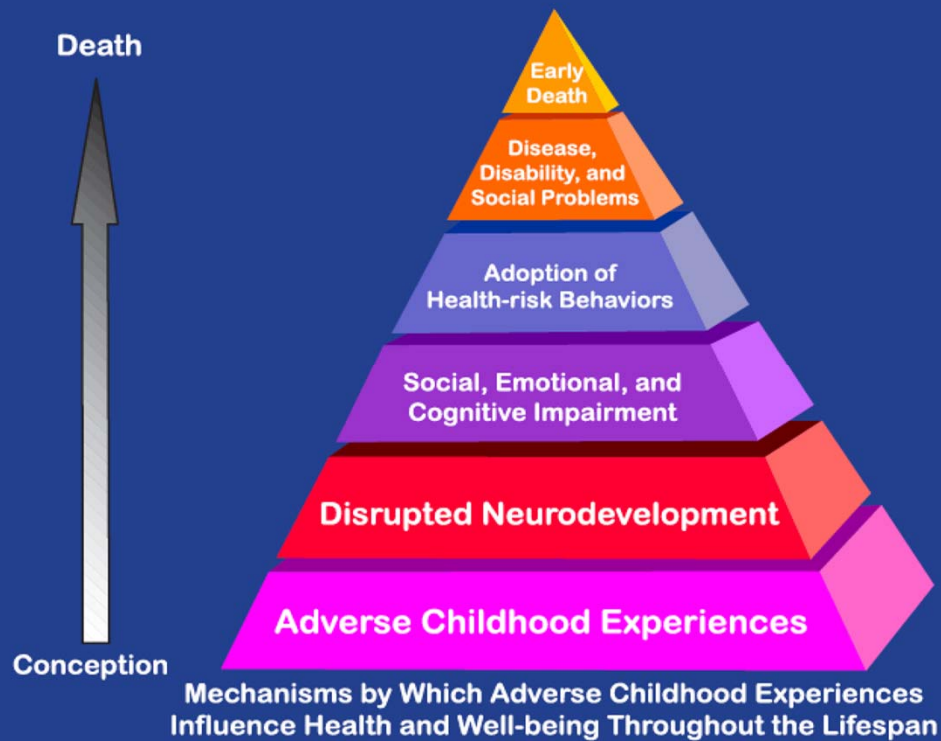
Review of Trauma

BIG T *little* t

- War
- Disasters
- Childhood sexual abuse
- Physical abuse
- Car wreck
- Crime victimization
- Witnessing death
- Domestic violence
- Emotional abuse
- Neglect
- Failure experiences
- Phobia related experiences
- Losses
- Stress at work or school
- Bullying
- Domestic violence

The ACE Study

Adverse Childhood Experiences Study (ACE)



- Ongoing collaborative research between the CDC and Kaiser Permanente
- Over 17,000 Kaiser patients participating in routine health screening volunteered to participate in the study
- Data reveal staggering proof of the **health, social, and economic risks** that result from childhood trauma

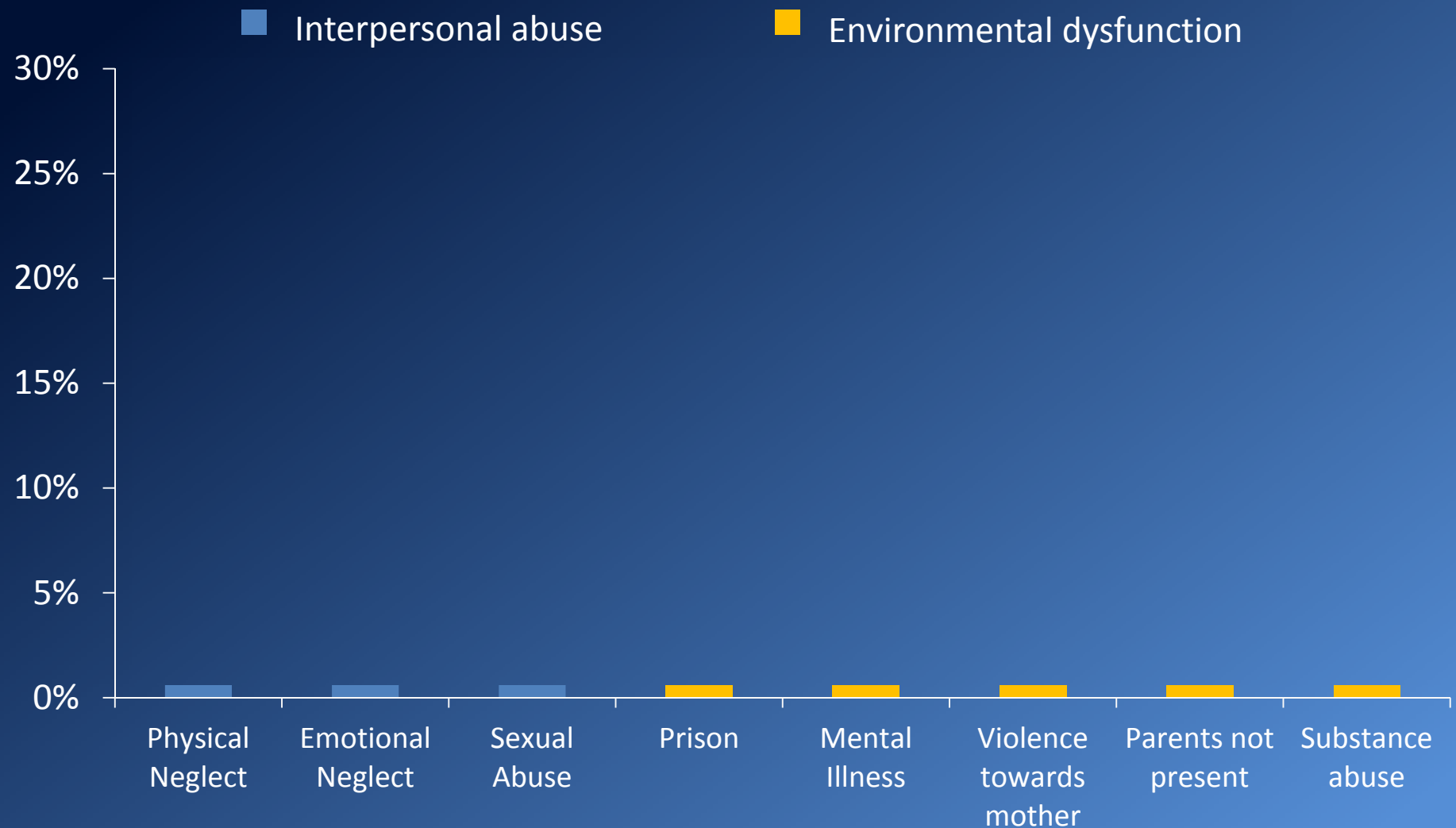
The ACE Questionnaire

- Verbal or emotional intimidation/abuse
- Physical abuse/hitting
- Sexual abuse
- Emotional neglect/feeling unloved or supported
- General neglect, basic needs not met
- Parents ever separated or divorced
- Witnessed domestic violence or abuse against a caregiver
- Household drinker or drug user
- Depressed or mentally ill household member
- Incarcerated family member

Major Findings of the ACE Study

- ACEs such as childhood abuse, neglect, and exposure to other traumatic stressors **are common**
- Almost **two-thirds** of the ACE Study participants reported **at least one ACE**, and **more than one of five** reported **three or more ACE**
- The short- and long-term outcomes of these childhood exposures include a **multitude of health and social problems**

Results of the ACE Study



SOURCE: The ACE Study, <http://acestudy.org>.

The ACE Study



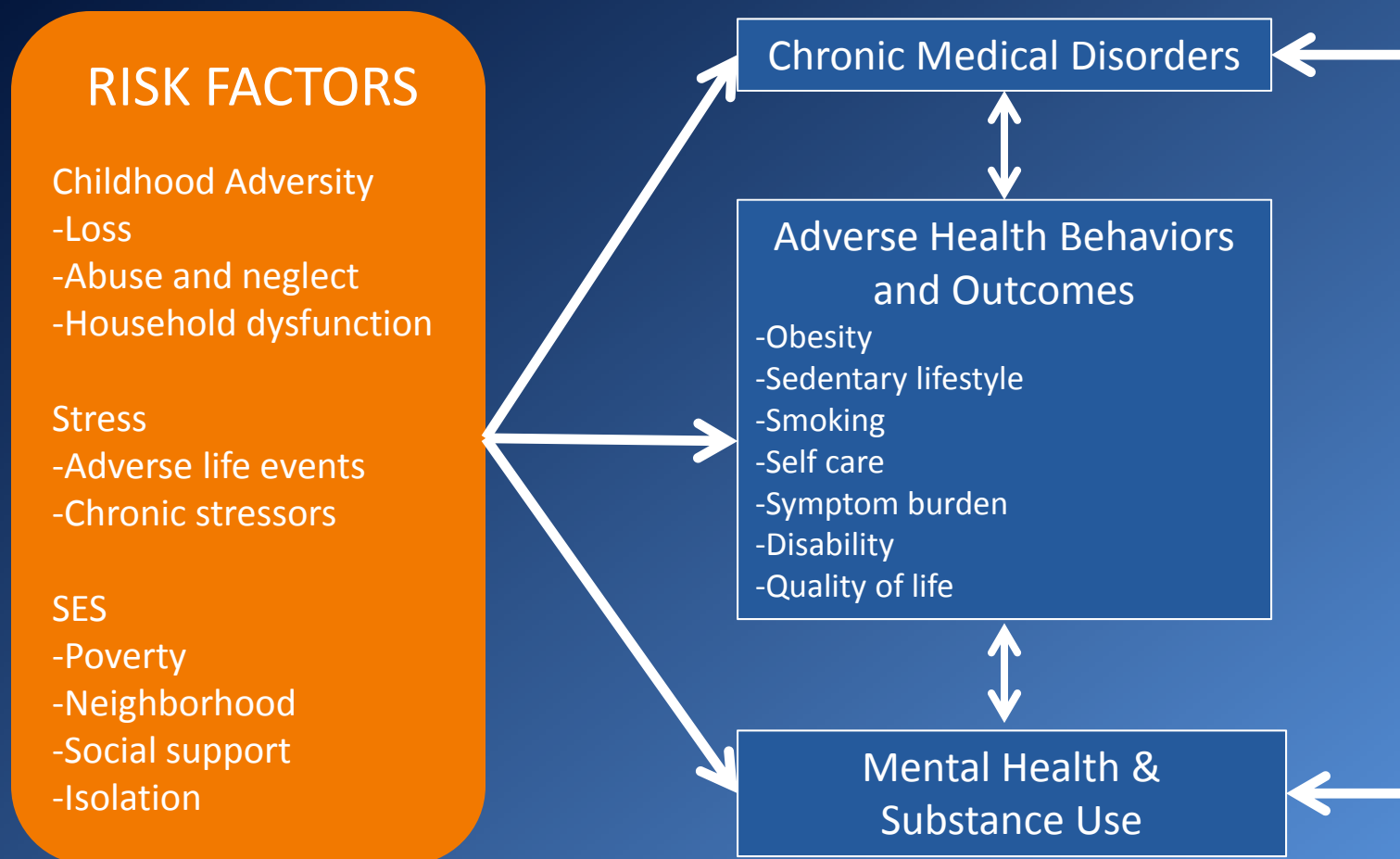
What Happens Later in Life?



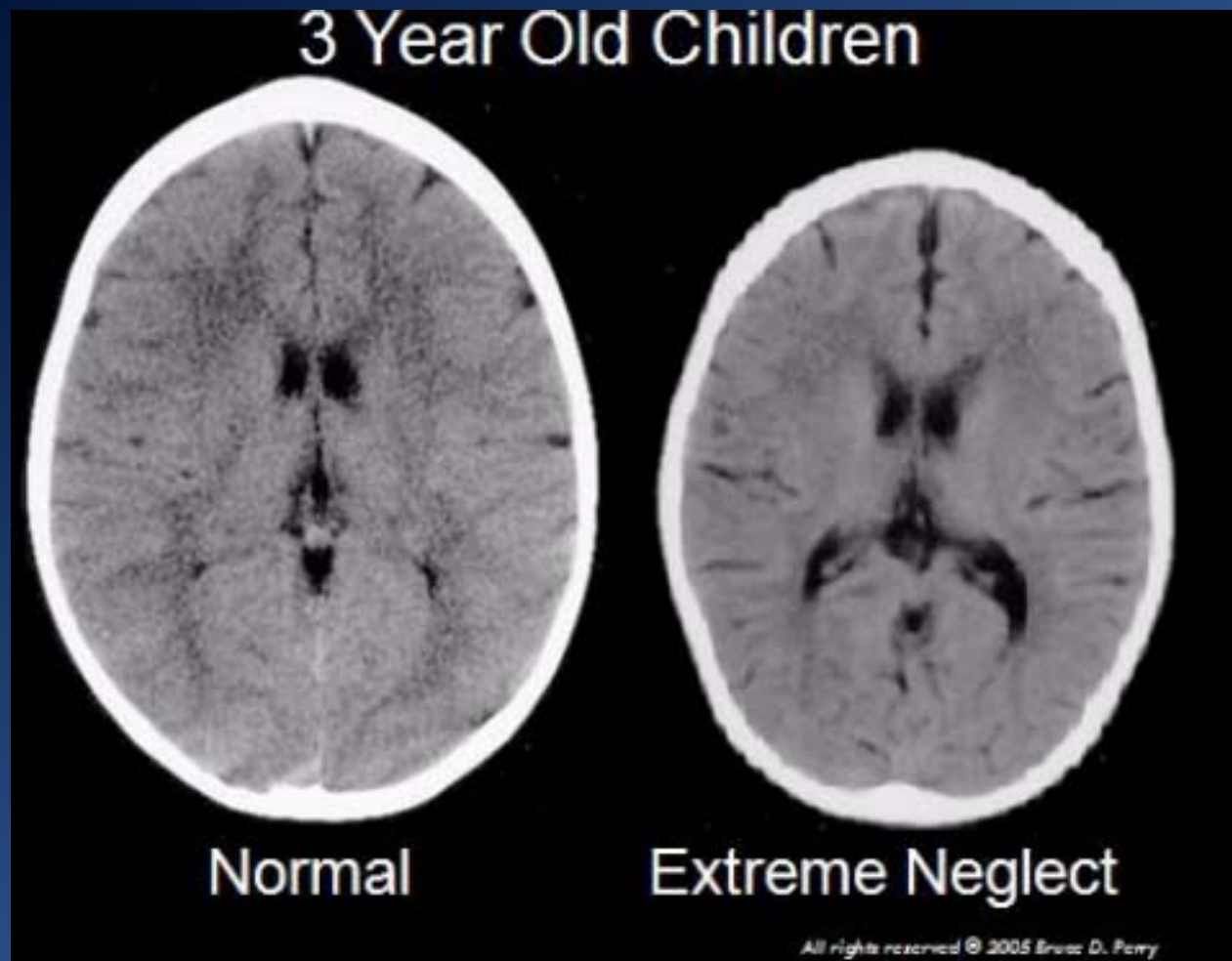
The ACE Score – Risk for Health Problems

- Alcoholism and alcohol abuse
- Chronic obstructive pulmonary disease (COPD)
- Depression
- Fetal death
- Health-related quality of life
- Illicit drug use
- Ischemic heart disease (IHD)
- Liver disease
- Risk for intimate partner violence
- Multiple sexual partners
- Sexually transmitted diseases (STDs)
- Smoking
- Suicide attempts
- Unintended pregnancies
- Early initiation of smoking
- Early initiation of sexual activity
- Adolescent pregnancy

Mental Health, Substance Use, and Physical Health are Interconnected



Trauma and the Brain



Continuing Brain Development



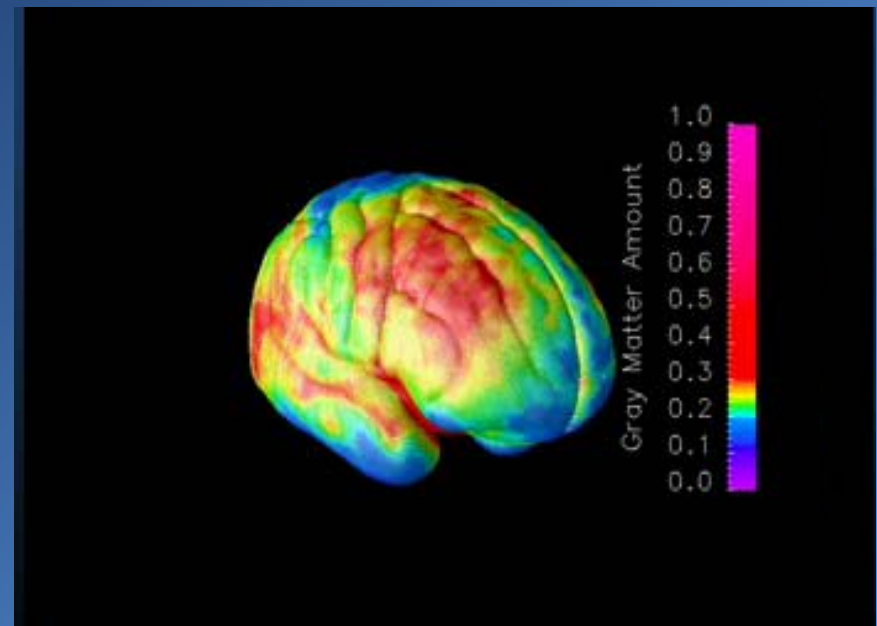
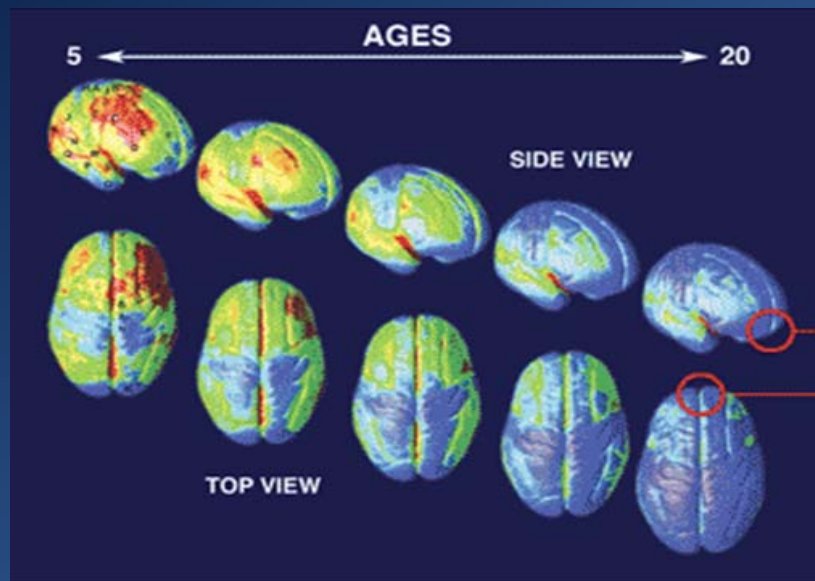
Early in development, synapses are rapidly created and then pruned back. Children's brains have twice as many synapses as the brains of adults.

SOURCE: Shore, 1997.

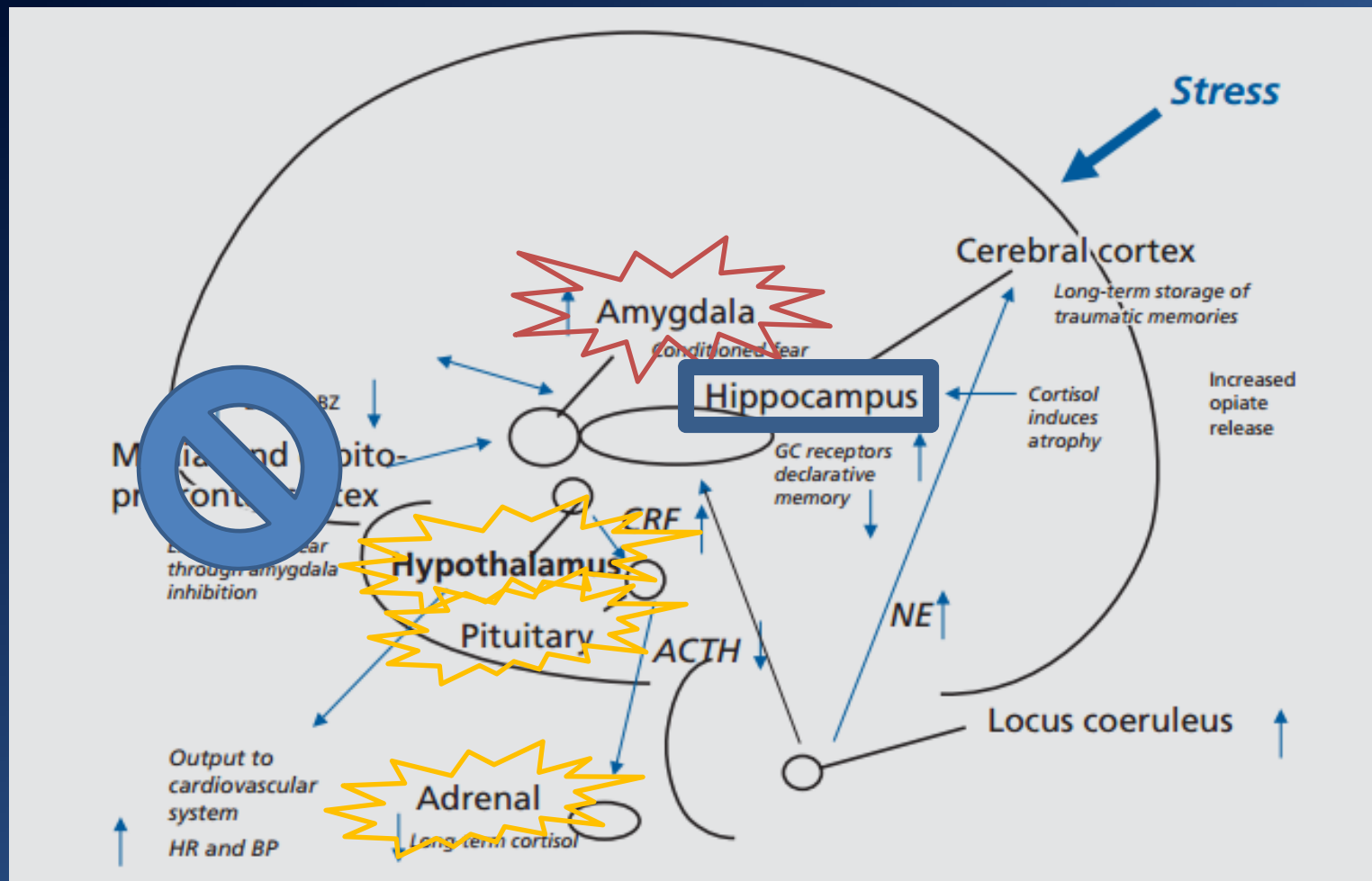
Brain Development

Ages 5-20 years

- MRI scans of healthy children and teens compressing 15 years of brain development (ages 5–20).
- Red indicates more gray matter, blue less gray matter.
- **Neural connections are pruned** back-to-front.
- The prefrontal cortex ("executive" functions), is last to mature.



SOURCE: Bremner, 2006



Trauma and the Brain

- Affects hippocampus and amygdala development
- Traumatized individuals “bypass” the prefrontal cortex when triggered
- During development, impaired growth in left hemisphere contributes to depression
- Impaired connection between hemispheres

What fires together, wires together

- Neurons firing act like an electrical current travelling down the axon
- Under the right conditions, synaptic connections can be strengthened by firing
- Repetition, emotional arousal, novelty, careful focus of attention
- Initially, very few connections exist
- Early experiences will shape the way in which you perceive the world and react to stressors

The Impact of Trauma

- Neuroplasticity
- Recovery from PTSD involves controlling or inhibiting the fear response
- New contradictory information can be introduced (“I am safe”) that will begin to lessen the fear over time as new information is integrated

Neuroplasticity

- If early experiences are positive, chemical controls over how genes are expressed will further reinforce emotional resilience
- If early experience are negative, alterations in genes result in difficulty with regulation and stress response resulting in reduce resilience
- Repeated neural firing plays a role in protein production, gene expression and subsequent firing

The Impact of Trauma

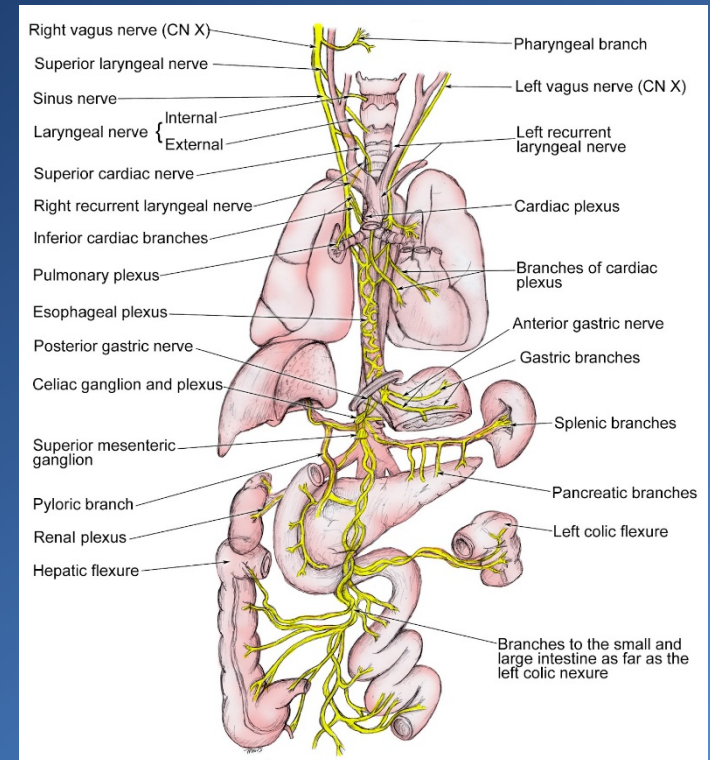
- Exposure to traumatic reminders increases blood flow to orbitofrontal cortex, insula, amygdala, and anterior temporal lobe, left anterior prefrontal cortex
- Triggers activate brain regions that support intense emotions, while decreasing activity of brain structures involved in the inhibition of emotions and the translation of experience into communicable language

The Impact of Stress

- Stress impacts the entire body
- The impact can last beyond the stressful event
- Stress can exacerbate mental health issues
- Stress can exacerbate substance use issues
- Stress can exacerbate medical conditions
-and vice versa

The Vagus Nerve

- Trauma and the way “the body keeps score” (van der Kolk)
- Connects the brain to stomach, gut, heart, lungs, throat
- Increased arousal results in physical symptoms and exacerbation of medical symptoms
- Communication between brain and immune systems for health and illness
- Composed of over 80% sensory fibers that constantly communicate information to and from brain
- Yoga and mindfulness activities are being examined to enhance mind-body therapies



The Physiological Impact of Stress

- Stress impacts the nervous system
- Autonomic nervous system (ANS): divided into the parasympathetic (PNS) and sympathetic nervous systems (SNS)
- When the body is stressed, the sympathetic nervous system activates and prepares the body for action (fight or flight)
- SNS signals adrenal glands to release cortisol and adrenalin
- Heart beats faster, respiration increases, blood vessels dilate, digestion changes, and glucose levels increase
- Parasympathetic system allows functioning to return to normal
- Stress increases SNS activation and an elevated and prolonged arousal state

ACEs and Violence

- Minnesota Student Survey found that adolescent males were 35%-144% more likely to engage in violence for each ACE endorsed
- Males were 45x more likely to engage in intimate partner violence when reporting childhood sexual abuse
- Individuals in corrections are 4x as likely to have experienced 4+ ACEs

ACEs and Criminal Justice

- A criminal psychologist administered the ACEs study to over 100 convicted killers
- The average score reported to him was 8
- Only 1 in 1000 Americans has an ACE score of 8 or higher
- A study of 152 adolescent offenders found that over 90% indicated having experienced at least one traumatic event
- 33.6% indicated having experienced 8 or more

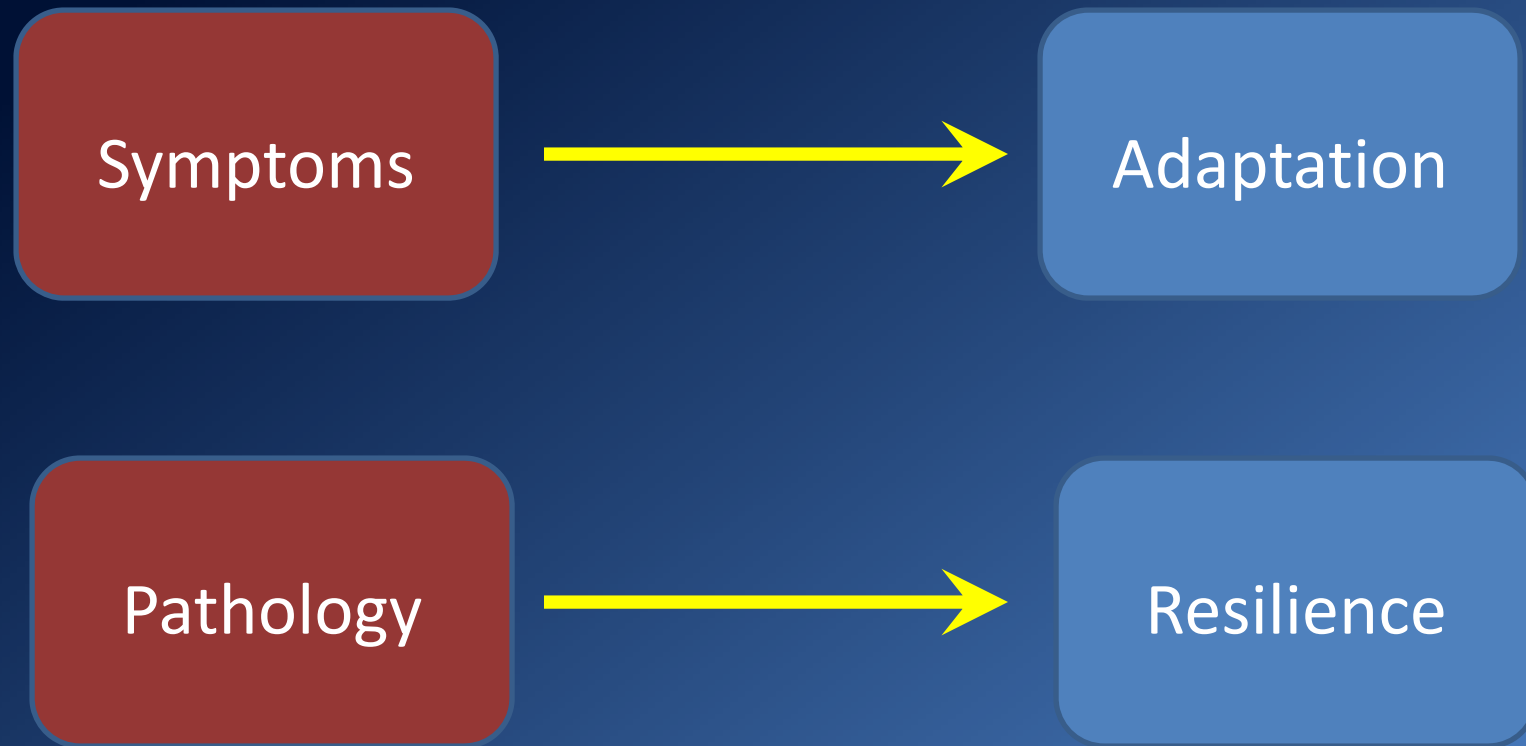
Trauma-Informed Care in Corrections



A Trauma-Informed Approach

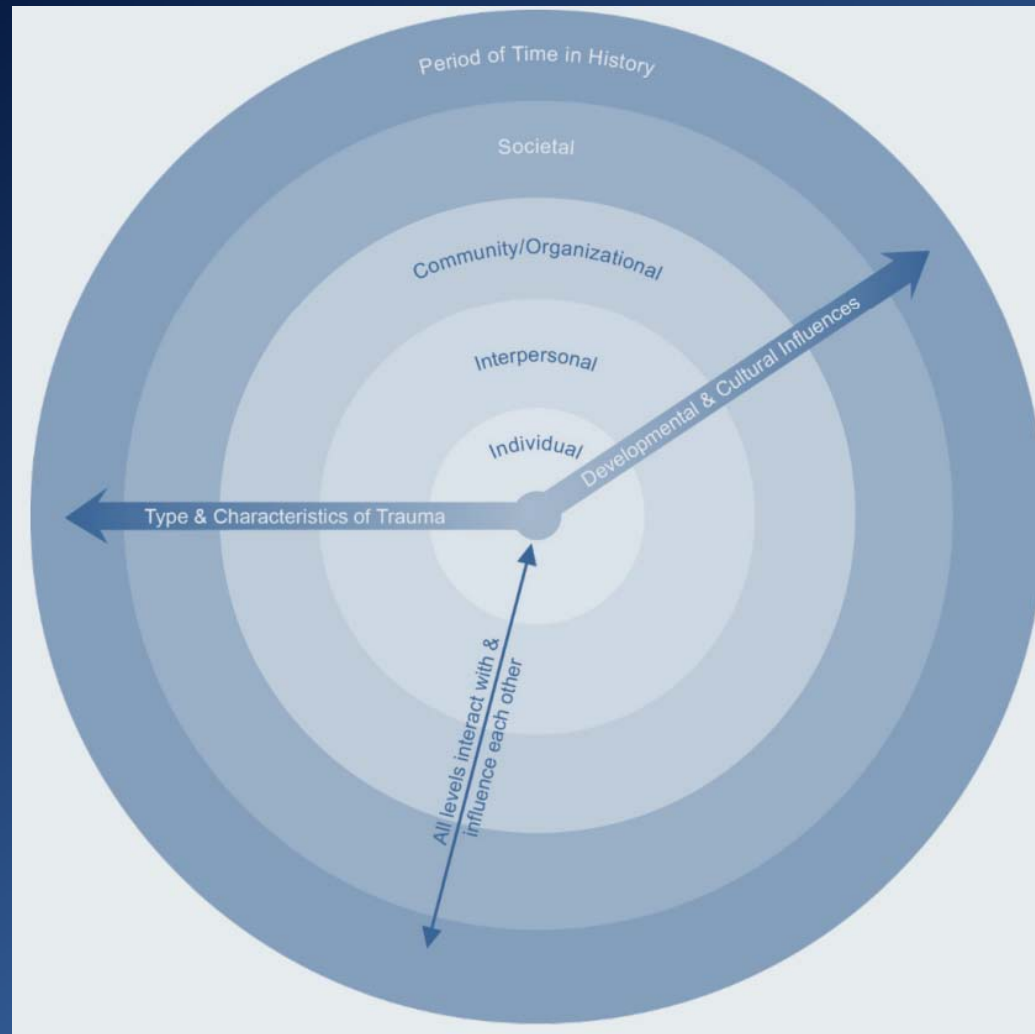
NIDA Clinical Trials Study

- Purpose was to improve PTSD and SUD symptoms among women in an outpatient setting
- One group received trauma-focused interventions
- Reductions in PTSD were more likely to be associated with substance use improvement
- The opposite was not true



*Moving from “what’s wrong with you” to
“what happened to you.”*

A socio-ecological conceptualization of trauma



What is Trauma-Informed Care?

Trauma-Informed

- Recognition of high prevalence of trauma
- Recognition of primary and co-occurring trauma diagnoses
- Recognition of culture and practices that are re-traumatizing

Non Trauma-Informed

- Lack of education on trauma prevalence and universal precautions
- Over-diagnosis of schizophrenia, bipolar d/o, conduct d/o, singular addictions
- cursory or no trauma assessment
- “Tradition of Toughness” as best care approach

What is Trauma-Informed Care?

Trauma-Informed

- Power/control minimized – constant attention to culture
- Caregivers/supporters - collaboration
- Address training needs of staff to improve knowledge & sensitivity

Non Trauma-Informed

- Staff demeanor, tone of voice
- Rule enforcers – compliance is key
- “Patient blaming” as fallback position without training

What is Trauma-Informed Care?

Trauma-Informed

- Staff understand function of behavior
- Objective, neutral language
- Transparent systems open to outside parties

Non Trauma-Informed

- Behavior seen as intentionally provocative
- Labeling language: “manipulative,” “needy,” “attention-seeking”
- Closed system – advocacy discouraged

Trauma-Informed Organizations

- Safe, calm and secure environment with supportive care
- System wide understanding of trauma prevalence, impact and trauma informed care
- Cultural Competence
- Consumer voice, choice and self-advocacy
- Recovery, consumer-driven and trauma specific services
- Healing, hopeful, honest and trusting relationships

How does your organization measure up?

Organizational Adoption of TIC

1. Early screening and assessment of trauma
2. Consumer driven care and services
3. Trauma-informed, educated and responsive workforce
4. Provision of trauma-informed, evidence-based, and emerging practices
5. Create safe and secure environments
6. Engage in community outreach and partnership building
7. Ongoing performance improvement and evaluation

Goals in Trauma-Informed Care

- Recognize that trauma-related symptoms and behaviors originate from adapting to traumatic experiences
- View trauma in the context of the individual's environments
- Minimize the risk of retraumatizing, replicating prior trauma dynamics
- Create a safe environment
- Identify trauma as a primary goal

Develop a Trauma-Informed Plan

- Discuss their initial recall or first suspicion that they were having a traumatic response.
- Become educated on trauma responses.
- Draw a connection between the trauma and presenting trauma-related symptoms.
- Explore their support systems and fortify them as needed.
- Understand that triggers can precede traumatic stress reactions, including delayed responses to trauma.
- Identify their triggers.
- Develop coping strategies to navigate and manage symptoms.

The Impact of Trauma



Trauma is like a rock hitting the water's surface

Emotional reactions

- What it looks like
 - Numbness or detachment
 - Anxiety or fear
 - Guilt
 - Anger
 - Helplessness
 - Sadness/shame
 - Depersonalization
 - Lack of control
 - Irritability or depression
 - “Stockholm syndrome”

Physical reactions

- What it looks like
 - Nausea
 - Sweating
 - Faintness
 - Skin rash
 - Fatigue or exhaustion
 - Aches and pains
 - Hyperarousal
 - Greater startle response
 - Appetite changes
 - Nightmares/difficulty sleeping

Cognitive reactions

- What it looks like
 - Difficulty concentrating
 - Rumination/preoccupation or racing thoughts
 - Self-blame
 - Difficulty making decisions
 - Generalization of triggers
 - Memory problems
 - Intrusive thoughts/flashbacks
 - Distortion of time and space (immediate reaction)
 - Belief that feelings/memories are dangerous
 - Hallucinations and delusions

Behavioral reactions

- What it looks like
 - “Jumpy” or easily startled
 - Restlessness
 - Argumentative behavior
 - Difficulty expressing oneself
 - Self-harm, adoption of risky/self-destructive behaviors
 - Withdrawing
 - Fixed or “glazed” eyes
 - Sudden flattening of affect
 - Stereotyped movements
 - Responses not congruent with the present context or situation
 - Excessive intellectualization

- Numbness or detachment
- Anxiety or fear
- Guilt
- Anger
- Helplessness
- Sadness/shame
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- Lack of control
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- Self-blame

Behavioral Coping

- Interventions
 - Focused breathing
 - Mindfulness/meditation
 - Progressive muscle relaxation
 - Establishing a safe environment
 - Listening to music
 - Grounding techniques

Grounding techniques

- Ask the client to state what he/she observes
 - “You’re in a safe situation. Let’s try to stay in the present. Take a slow deep breath, relax your shoulders, put your feet on the floor; let’s talk about what day and time it is, notice what’s on the wall, etc. What else can you do to feel okay in your body right now?”
- Help the client decrease the intensity of affect
 - Imagine turning down an “emotional dial”, progressive muscle relaxation
- Distract the client from unbearable emotional states
 - Counting tasks, focusing on objects in the room, self-talk to remind of current safety, focus on recent or future events (“to-do” list for the day)
- Ask the client to use breathing techniques

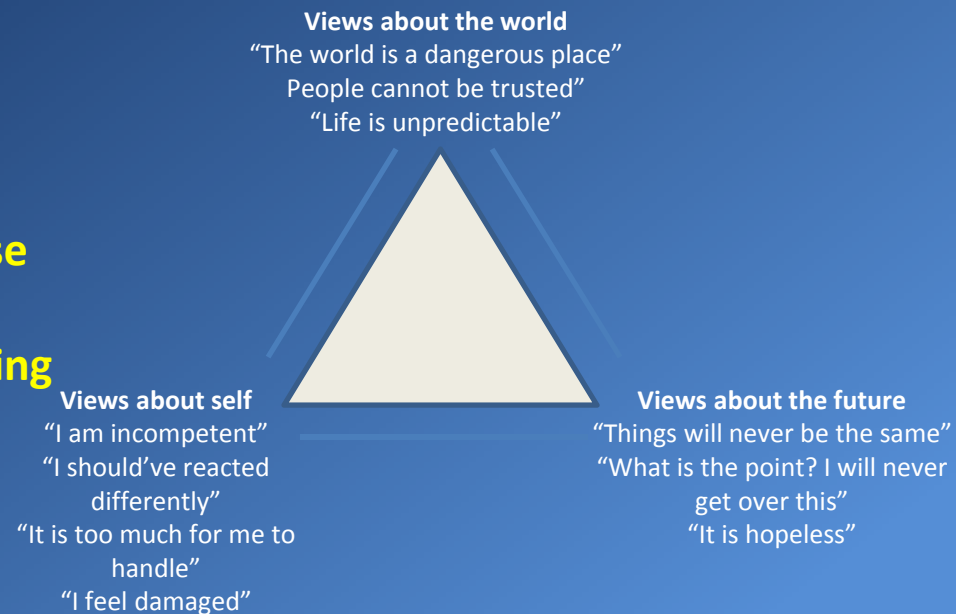
Affective Coping

- Interventions
 - Feeling identification
 - Role playing expression of feelings with others
 - Thought interruption
 - Positive imagery
 - Positive self-talk
 - Problem solving
 - Recognition of triggers

Cognitive Coping

- Interventions
 - The Cognitive Triangle and anticipating outcomes
 - Enhance personal safety
 - Challenging negative cognitions

- “I can only be happy if I’m involved with someone.”
- “Being strong means I should never feel upset.”
- “Some problems have to be avoided because they are just too hard to handle.”
- “I can’t handle how horribly wrong everything is going in life.”



Cognitive Coping

- Interventions
 - The Cognitive Triangle and anticipating outcomes
 - Enhance personal safety
 - Challenging negative cognitions

Exposure therapy

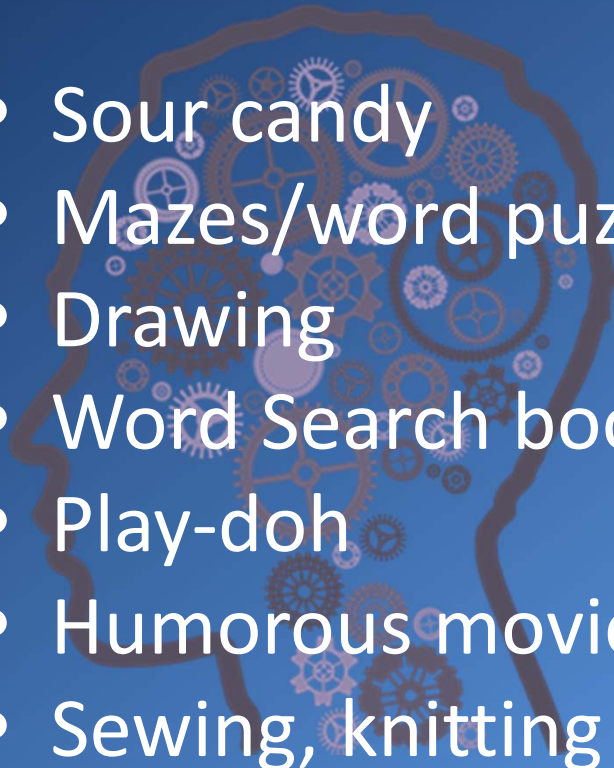
- Interventions
 - Constructing a trauma narrative
 - Builds on all other coping techniques

Coping/Soothing Kit

- **Goal:** for trauma survivors to try new healthy coping skills and to enhance grounding when triggered.

- Sweet candy
- Stress ball
- Relaxing/calming music
- Bubbles (control breathing)
- Relaxing bath/lotions
- Non-caffeine tea

- Sour candy
- Mazes/word puzzles
- Drawing
- Word Search book
- Play-doh
- Humorous movies
- Sewing, knitting



Providing Psychoeducation on Trauma

- Strategy #1: Provide psychoeducation on the common symptoms of traumatic stress
- Strategy #2: Research the client's most prevalent symptoms specific to trauma, and then provide education to the client. (Ex: individual who was trapped as a result of a traumatic event will more likely be hypervigilant about exits, plan escape routes even in safe environments, and have strong reactions to interpersonal and environmental situations that are perceived as having no options for avoidance or resolution)

Providing Psychoeducation on Trauma

- Strategy #3: List symptoms. After each symptom, ask the client to list the negative and positive consequences of the symptom

A Trauma-Informed Approach to Engagement

Open ended questions to recognize and focus on building an individual's strengths:

- What are some of the accomplishments that give you the most pride?
- What would you say are your strengths?
- How do you manage your stress today?
- What behaviors have helped you survive your traumatic experiences?
- What are some ways that you deal with painful feelings?
- What coping tools have you learned from your _____ (fill in: cultural history, spiritual practices, friends, family, etc.)?

General Tips

- **MODIFY TREATMENT PROTOCOLS**

- **Decrease** length of sessions (attention, memory)
- Take **structured breaks** (attention, focus, memory)

(Bates, et al., 2013; Huckans, et al., 2013)

- **Increase** session frequency (practice)
- **Repeat** presentations of therapeutic information (detox, 2 weeks, 4 weeks, 1 month, 3 months, etc.)
- **Multi-modal presentations**—audio, visual, experiential, verbal, hot/cold situations, etc.
 - (Grohman, K. & Fals-Stewart, W., 2003, 2012; Medalia, A. & Revheim, N., 2003; & Aharonovich, E., et al., 2003, 2005, 2011)

General Tips

- Use **memory aids**— calendars, planners, phone apps, diagrams

(Bates, et al., 2013; Huckans, et al., 2013)

- Teach **stress management, breathing, relaxation, and mindfulness meditation** skills

(Bates, et al., 2013; Huckans, et al., 2013)

- Provide **immediate feedback** and corrective experiences
- Repeat instructions, **put things in writing**, provide short/direct instructions

The 20/20/20 Rule (or 15/15/15)



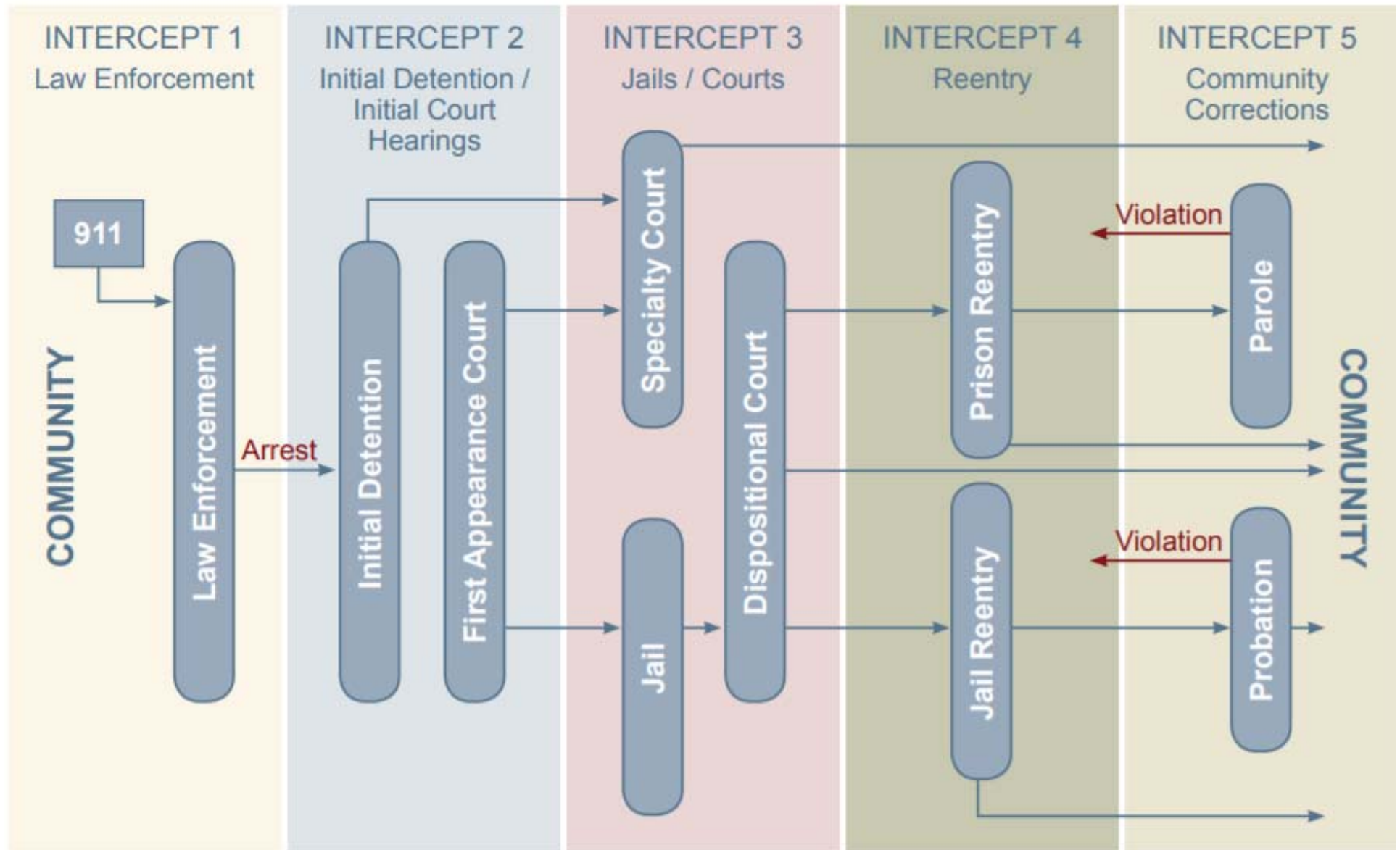
Check-In
and Review

New Skill
and
Practice

Reinforce
and
Homework

Trauma-Informed Correctional Care

- TICC results in
 - Controlled healthcare costs and staff turnover
 - Controlled cost of expensive secure mental health housing units
 - Reducing seclusion and restraint
 - Safer facilities and job satisfaction



FIVE INTERCEPT POINTS: Openings for Change

Trauma-Informed Correctional Care

- Interventions/Exercises
 - Trauma-related symptoms, behaviors, adaptations and their function
 - Grounding role plays and demonstrations
 - Practicing verbal trauma de-escalation prompts
 - Demonstrating talking to inmates through pat downs and searches
 - Redirecting offenders and inmates who bring up trauma details

Trauma-Informed Correctional Care

- Incorporate the voice of survivors:
 - Panels of individuals in trauma recovery
 - Videos and films of stories of trauma healing
 - Stories of offenders overcoming victimization
 - Signs of vicarious trauma, supporting co-workers
- Use present-focused cognitive behavioral techniques: “headlines not details”
- Consistency and accountability are essential
- Use manualized treatments if possible

Additional Trauma-Specific Interventions

- Cognitive processing therapy
- EMDR
- Skills Training in Affective and Interpersonal Regulation (STAIR)
- Stress inoculation training (SIT)
- Addiction and trauma recovery integration model (ATRIUM)
- Beyond Trauma: A Healing Journey for Women
- Concurrent Treatment of PTSD and Cocaine Dependence (CTPCD)
- ICBT
- Seeking Safety
- Substance Dependence PTSD Therapy
- Trauma Affect Regulation: Guide for Education and Therapy (TARGET)
- Trauma Recovery and Empowerment Model (TREM)

Self-Care: Recognizing Burnout

- **Burnout:** exhaustion of physical or emotional strength and motivation usually as a result of prolonged stress or frustration, powerlessness, inability to achieve one's goals
- **Compassion Fatigue:** the loss of caring for others' emotional pain. Similar to PTSD, except it applies to those emotionally affected by the traumas of others
- **Vicarious (secondary) Trauma:** similar to compassion fatigue, places the focus on the emotional impact of highly traumatized patients on the therapist. Symptoms nearly identical to PTSD

Self-Care: Recognizing Burnout

- Symptoms of burnout
 - Procrastination
 - Chronic fatigue
 - Cynicism
 - Blaming others
 - Chronic lateness
 - Difficulty experiencing happiness
 - Pessimism
 - Loss of satisfaction in career
 - Giving up on: education, occupation, friendships, marriage, living
 - Addictive behaviors
 - Frequent illness

Self-Care: Recognizing Burnout

- Assessing your Burnout:
 - What populations do you work with?
 - Who/what are your organizational supports?
 - What are your familiar coping strategies?
 - What is your emotional style?
 - What are your vulnerabilities?

It is always critical to seek help and support if you recognize symptoms related to burnout as they could indicate the need for more formal support through your own counseling, EAP, etc.

Self-Care: Develop a Plan

- Personal: tending to physical needs (adequate rest, nutrition), participating in fun activities, identifying relaxing activities to engage in regularly
- Professional: obtain ongoing professional development, recognition by organization of the process of vicarious trauma, developing a professional support network

Self-Care: Develop a Plan

- Eat regularly
- Eat healthy
- Exercise
- Seek regular medical check-ups and care when needed
- Do something you enjoy
- Get enough sleep
- Take time off
- Read for fun
- Identify ways to reduce stress
- Listen to your thoughts, feelings
- Find activities that increase your curiosity

THANK YOU!!

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For additional information
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www.psattc.org

www.motivationalinterview.org

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