

## ADVERSE CHILDHOOD EXPERIENCES

### “ACE AND THE 0-5 POPULATION: EARLY INTERVENTION TO CHANGE TRAJECTORY”

Jenae Holtz, LMFT  
Director  
Kiti Freier Randall, PhD  
Pediatric Neurodevelopmental Psychologist  
Desert/Mountain Children's Center  
Children's Network Conference  
November 19, 2013



“The quality of a civilization may be measured by how it cares for its elderly.

Just as surely, the future of a society may be forecast by how it cares for its young.”

*Daniel Patrick Moynihan, 1986*

## What is the ACE Study?



### Adverse Childhood Experiences Study

- ◉ Large epidemiological study
- ◉ More than 17,000 adults
- ◉ Standard physical examination
- ◉ Matched childhood experiences with adult health
- ◉ Defined 10 categories, each valued at 1
- ◉ Does not score events, just categories - JAMA 2001; 386

Centers for Disease Control and Prevention, 2013  
Vincent J. Felitti, MD, Kaiser Permanente Medical Care Program

### Physiological Impact of Trauma

- ◉ Events leave a record
- ◉ The brain is altered by events
- ◉ The nature of the alteration dependent on nature of the events
- ◉ Adverse Childhood Experiences may alter development and lead to a life time of vulnerability
  - ◉ ACE Study



### Adverse Childhood Experiences Study

- ◉ Childhood Abuse
  - Psychological
  - Physical Abuse
  - Sexual Abuse
- ◉ Neglect
  - Emotional
  - Physical

## Adverse Childhood Experiences Study, cont.

- ⦿ House Dysfunction
  - Alcoholism
  - Loss of a parent
  - Depression/mental illness
  - Domestic Violence
  - Family member imprisoned

## As the number of ACE's increase the risk of

- ⦿ Alcoholism/substance abuse
  - ⦿ Depression/suicide attempts
  - ⦿ Intimate family violence
  - ⦿ Heart Disease
  - ⦿ Chronic Lung Disease
  - ⦿ Liver Disease
  - ⦿ Obesity
  - ⦿ STD's HIV
- increases in a graded fashion**

## ACE Results

- ⦿ A male child with an ACE score of 6 has a 4,600% increase in the likelihood of becoming an IV drug user compared to a male child with an ACE score of 0

## ACE Results

- ⦿ With score of 4 or more (0 vs. 4 or more)
  - 460% increase in depression
  - 1,220% increase in attempted suicide
  - 740% increase in alcoholism
  - 470% increase in illicit drug use
  - 320% increase in >50 sexual partners
  - 250% increase in STD
  - Significant risk for
    - ⦿ Intimate Partner violence
    - ⦿ Teen pregnancy

⦿ JAMA 2001; 286

## CDC ACE Study

- ⦿ People who experienced considerable trauma during their childhood died 20 years prematurely
- ⦿ Those suffering this substantial childhood trauma have double the risk for early death compared with adults who had not endured adverse childhood experiences.

## ACE Study Conclusion

- ⦿ The greater number of childhood traumatic exposures, the greater risk of early adult disease and death, from any cause.
- ⦿ Many chronic diseases of adults are determined in childhood, not by disease but by the events of childhood.

### Trauma Exposure in Childhood and Later Functioning

- Abuse and interparental violence in early before age 6 predicts behavior problems in adolescence (Appleyard, Egeland, van Dulmen, & Sroufe, 2005)

### Trauma Exposure in Childhood and Later Functioning, cont.

- Child maltreatment was associated with higher rates of adult psychiatric disorder, even after controlling for childhood family adversity (Collishaw et al., 2007)

### Trauma Exposure in Childhood and Later Functioning, cont.

- Adverse childhood experiences (ACEs) have been linked to adult physical health risks (Dube et al., 2003) and to the leading causes of adult death and disability (Felitti et al., 1998)

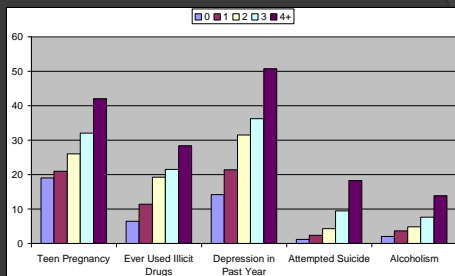
### Adverse Childhood Experiences

Growing up (prior to age 18) in a household with:

1. Recurrent physical abuse.
2. Recurrent emotional abuse.
3. Sexual abuse.
4. An alcohol or drug abuser.
5. An incarcerated household member.
6. Someone who is chronically depressed, suicidal, institutionalized or mentally ill.
7. Mother being treated violently.
8. One or no parents.
9. Emotional or physical neglect.

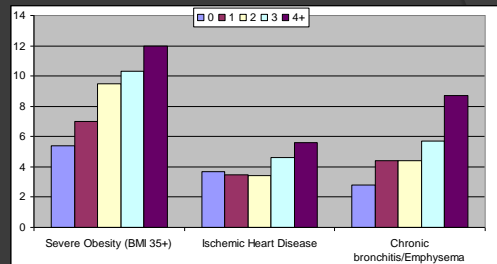
(ACE Study, Felitti et al. 1998; www.acestudy.org)

### ACE Score and Health Risks



Anda et al., 2006, Dube et al., 2003, Felitti et al., 1998, acestudy.org

### ACE Score and Health Risks

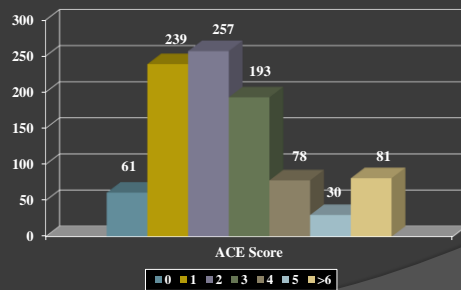


Anda et al., 2006, Dube et al., 2003, Felitti et al., 1998, acestudy.org

# Desert/Mountain Children's Center ACE RESULTS

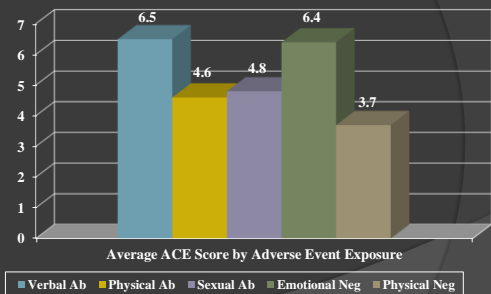


## DMCC Clinical Population ACE Risk Factors

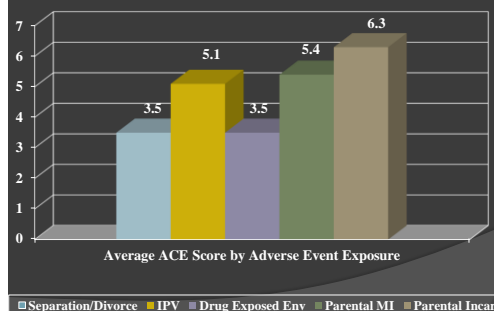


(N=939)  $\geq 4 = 20\%$

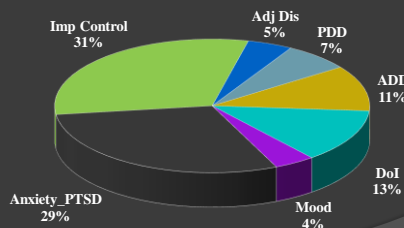
## Maltreatment



## Home Dysfunction



## Axis I Mental Health Diagnoses



N=906



# Impacts to the Brain Regarding Trauma

## What Is Trauma?

An exceptional experience in which powerful and dangerous stimuli

- Overwhelm the child's developmental and regulatory capacity (including the capacity to regulate emotions)
- Insufficient resources to cope with the event

## Trauma: The Synergy of Ecology & School:

- There are various **adaptive** mental and physical responses to trauma, including physiological hyperarousal and dissociation. If they continue in unhealthy environments they become **maladaptive**.

- Adapted from B. Perry

## Trauma IMPACT ON CHILDREN

**“Each year in the US alone, there are over 3 million children that are abused or neglected. These destructive experiences impact the developing child, increasing risk for emotional, behavioral, academic, social and physical problems throughout life.”**

*Perry & Marcellus*

## Trauma & Drugs

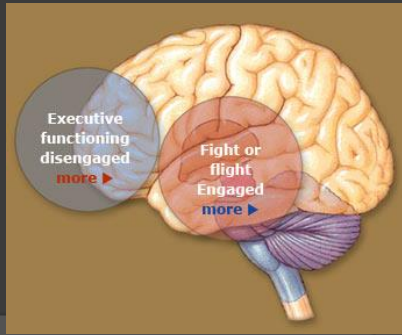
Substance abuse contributes to 75% of incidence of child **abuse and neglect** of children in foster care

No Safe Haven: Children of Substance Abusing Parents, National Center on Addiction and Substance Abuse (CASA) at Columbia University, January 1999

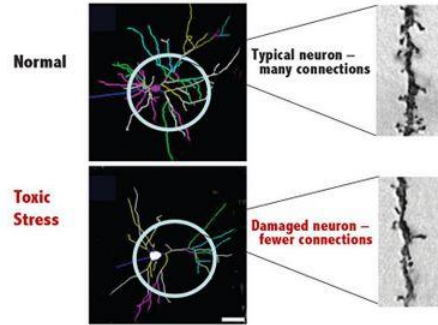
## TRAUMA: IMPACT ON CHILDREN Cycle of Abuse

- Children who have been abused are at high risk to become victims of abuse as an adult or become a perpetrator of violence
- Children of addicted parents are the highest risk group of children to become alcohol and drug abusers themselves...

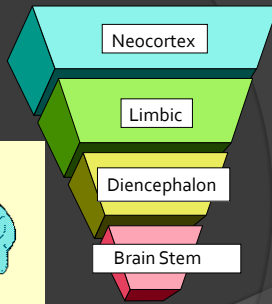
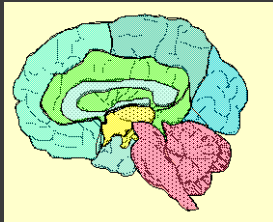
## Your brain and stress



## Persistent Stress Changes Brain Architecture



The brain is hierarchical from bottom to top and from simple to complex



All rights reserved 2004 Bruce D. Perry

www.ChildTrauma.org

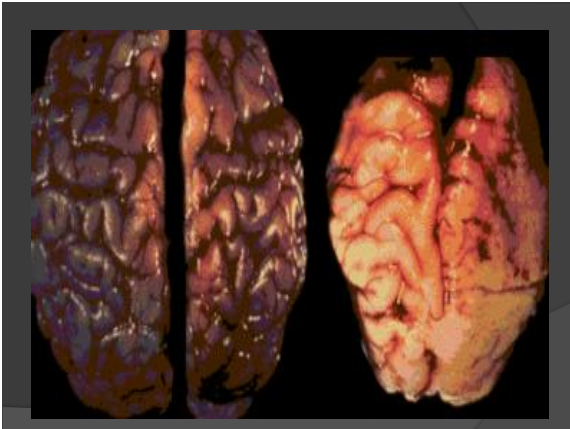
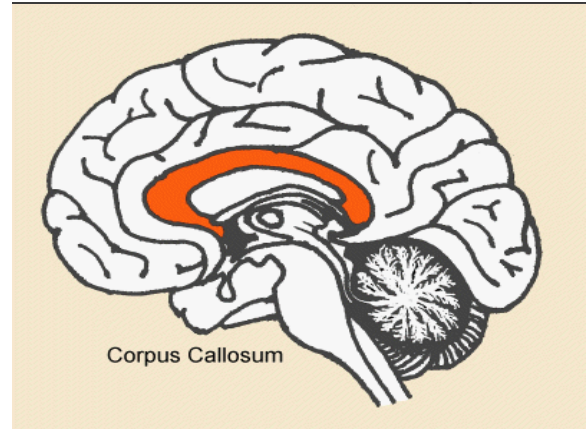
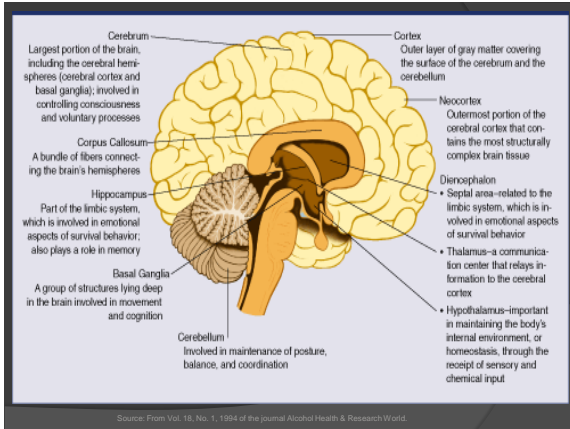
**Abstract thought**  
**Concrete thought**  
**Affiliation**  
**"Attachment"**  
**Sexual Behavior**  
**Emotional Reactivity**  
**Motor Regulation**  
**"Arousal"**  
**Appetite/Satiety**  
**Sleep**  
**Blood Pressure**  
**Heart Rate**  
**Body Temperature**

All rights reserved © 2004 Dr. Bruce Perry

## Key Actions of the Brain

- The brainstem is the least complex part of the brain and regulates automatic body functions such as breathing, heart rate, and the fear response.
- The cortex is the most complex part of the brain with 50% of all neurons, or nerve cells.
- The cortex regulates complex thinking.

## Impacts to the Brain Regarding Prenatal Exposure to Drugs/Alcohol



## Impacts to the Brain Regarding Prenatal Exposure to Maltreatment

### Maltreated Children Have More Delays in Development

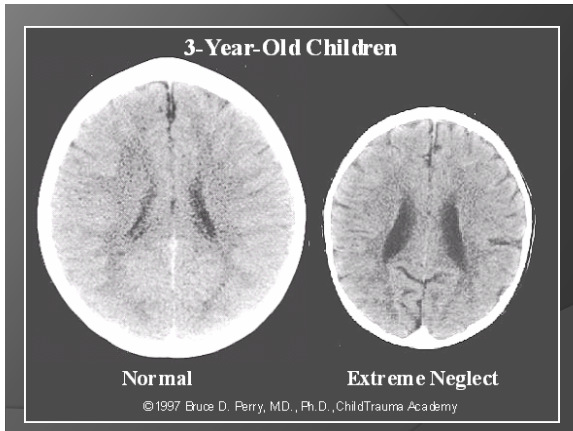
- 40-60%+ of maltreated children have significant developmental concerns compared with 10-12% in the general population

### Maltreated at early age is related to poor developmental outcomes

- cognitive problems (23-65%)
- speech delays (14-64%)
- health problems (22-80%)
- motor delays (4-47%)
- mental problems (10-61%)



Wiggins, C., Fenichel, E., & Mann, T. (2007). *Literature review: Developmental problems of maltreated children and early intervention options for maltreated children*. Washington, DC.



## Issues Related to Impacts on the Brain

- Attachment Disorders
- Cognitive Deficits
- Sensory Integration Disorders
- Language Deficits
- Post Traumatic Stress Disorder
- Mood Disorders
- Attention or Executive Functioning Difficulties
- Adjustment Disorders
- Sense of Self

## Take Away Messages

- Trauma is an epidemic (even in early childhood)
- Certain groups of children are at higher risk for trauma exposure
- Trauma exposure has negative consequences for young children's development
- Trauma exposure is associated with later problems in mental and physical health
- To prevent, manage, or repair mental and physical health problems, we must address trauma

## How do we change trajectory?

## Mental Health Consequences of Disruption

- It changes their emotional landscape
  - Distorting their emerging view of the world
  - Without 'intervention' this may result in later behavioral & emotional problems

## Treatment and the young child

*(a place which cares for our 'young' can be a place for)*

PREVENTION  
FIRST RESPONSE  
INTERVENTION  
TRAJECTORY CHANGE



## Ecology & Trajectories

- ◉ All human development proceeds within a relational context
- ◉ In synergy with the relationship to the environment

## Neurodevelopmental Consequences

- ◉ Disruption of normal developmental experiences may result in negative impact on any or all areas of development

## Understand Trauma

- ◉ Understand how trauma affects . . .
  - The child
  - The caregiver
  - The family
  - The provider
  - The system
- ◉ Young children communicate through behavior; symptoms=communication
- ◉ Try to understand what they are trying to say

## Safety

- ◉ Focus on safety (real and perceived) for all of us
- ◉ Support the caregiver-child relationship and restore the protective shield
- ◉ Children need to see caregivers as protective

## Recognize the importance of relationships

- ◉ Young children's sense of safety comes from relationships with caregivers
- ◉ Young children regulate affect in relationships
- ◉ The best predictor of child functioning is caregiver functioning

## Help children regulate in the presence of reminders

- ◉ Identify trauma reminders
- ◉ Communicate about trauma reminders to child and to people who care for child
- ◉ When possible (without inviting avoidance), reduce exposure to reminders
- ◉ Help child regulate (thinking about safety and relationships)

UNDERSTAND  
RISK  
(AT RISK BUT NOT DOOMED)

BELIEVE IN  
RESILIENCY

## Resiliency

Resilience is the capacity to maintain or develop competent functioning in the face of major life stressors

## Resiliency

**Resilience is not a trait but rather a capacity that develops over time**

**IN THE CONTEXT OF ENVIRONMENTAL SUPPORT**

INTERVENTION

### Trauma: Intervention

- In general, structure (safety), predictability (routine) and nurturance (positive relationships) are key elements to a successful intervention

- Adapted from "How States become Traits" Perry et.al.

## Mental Health Services

## Benefits of TREATMENT

- ◉ **Early Assessment & Intervention** can be a prophylactic – helping to prevent a prolonged acute, neurophysiological, neuroendocrine, and neuropsychological trauma response
  - Bruce Perry
- Trauma/Substance Abuse environments– The Impact on the child often requires individual and dyadic/family assessment & intervention

## Treatment

- ◉ **Treatment – Fosters development and growth for child/family**
  - Individual Counseling
  - Family Counseling
  - Parent Education/Training
  - Dyadic Treatment
  - Attachment/Attunement Treatment
  - Sensory Based Treatment
  - Group Therapy

## Parent & Family Supports

Parents supported in supporting their children....

- ◉ The single most important component of a child's healthy development is the presence of an enduring adult caregiving relationship

*From Neurons to Neighborhoods  
(Shonkoff & Phillips, 2000)*

## Supporting Parents

- How to Respond to Your Child's Skills
  - Help them understand their child's developmental capacities
  - Teach parents skills that will change negative interaction style with their child
  - Model positive interaction patterns



YOU Are KEY In a  
CHILD'S TRAJECTORY