STRESS & EARLY BRAIN GROWTH
Understanding Adverse Childhood Experiences (ACEs)

What are ACEs?

ACEs are serious childhood traumas -- a list is shown below -- that result in toxic stress that can harm a child's brain. This toxic stress may prevent a child from learning, from playing in a healthy way with other children, and can result in long-term health problems.

Adverse Childhood Experiences can include:

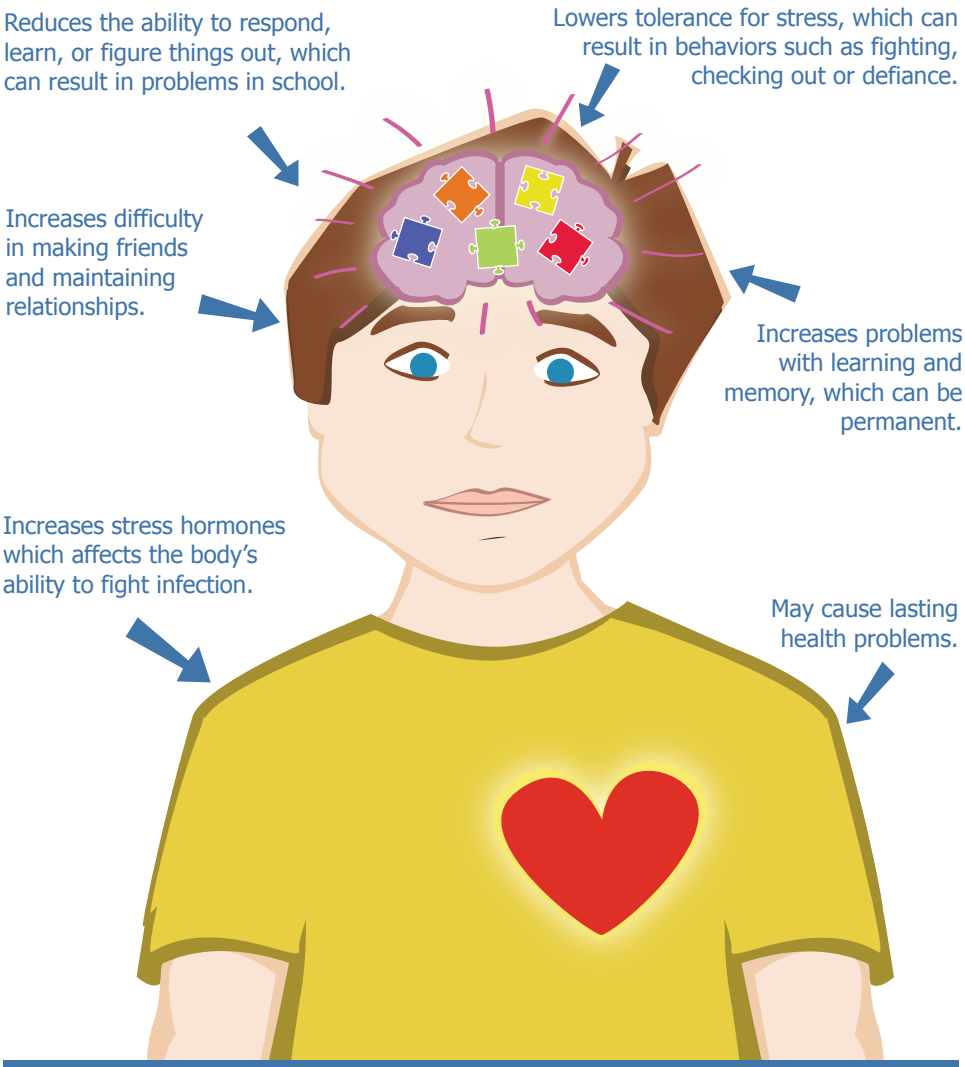
1. Emotional abuse
2. Physical abuse
3. Sexual abuse
4. Emotional neglect
5. Physical neglect
6. Mother treated violently
7. Household substance abuse
8. Household mental illness
9. Parental separation or divorce
10. Incarcerated household member
11. Bullying (by another child or adult)
12. Witnessing violence outside the home
13. Witness a brother or sister being abused
14. Racism, sexism, or any other form of discrimination
15. Being homeless
16. Natural disasters and war

Exposure to childhood ACEs can increase the risk of:

- Adolescent pregnancy
- Alcoholism and alcohol abuse
- Depression
- Illicit drug use
- Heart disease
- Liver disease
- Multiple sexual partners
- Intimate partner violence
- Sexually transmitted diseases (STDs)
- Smoking
- Suicide attempts
- Unintended pregnancies

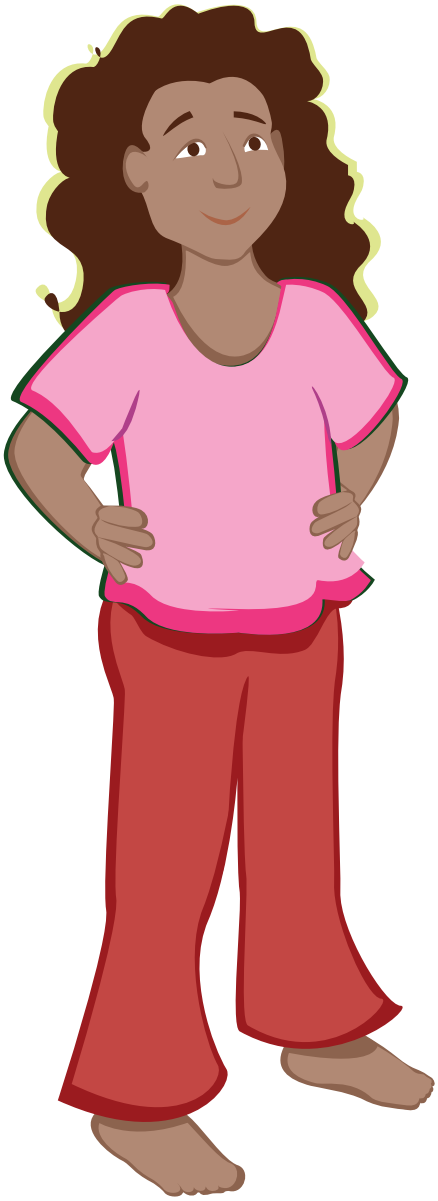
How do ACEs affect health?

Through stress. Frequent or prolonged exposure to ACEs can create toxic stress which can damage the developing brain of a child and affect overall health.



A Survival Mode Response to toxic stress increases a child's heart rate, blood pressure, breathing and muscle tension. Their thinking brain is knocked off-line. Self-protection is their priority. In other words:
"I can't hear you! I can't respond to you! I am just trying to be safe!"

The good news is resilience can bring back health and hope!



What is Resilience?

Resilience is the ability to return to being healthy and hopeful after bad things happen. Research shows that if parents provide a safe environment for their children and teach them how to be resilient, that helps reduce the effects of ACEs.

Resilience trumps ACEs!

Parents, teachers and caregivers can help children by:

- Gaining an understanding of ACEs
- Helping children identify feelings and manage emotions
- Creating safe physical and emotional environments at home, in school, and in neighborhoods

What does resilience look like?

1. **Having resilient parents**
Parents who know how to solve problems, who have healthy relationships with other adults, and who build healthy relationships with their children.

2. **Building attachment and nurturing relationships**
Adults who listen and respond patiently to a child in a supportive way, and pay attention to a child's physical and emotional needs.

3. **Building social connections**
Having family, friends and/or neighbors who support, help and listen to children.

4. **Meeting basic needs**
Providing children with safe housing, nutritious food, appropriate clothing, and access to health care and good education.

5. **Learning about parenting and how children grow**
Understanding how parents can help their children grow in a healthy way, and what to expect from children as they grow.

6. **Building social and emotional skills**
Helping children interact in a healthy way with others, manage their emotions and communicate their feelings and needs.

Resources:

ACES 101
http://acestoohigh.com/aces-101/

Triple-P Parenting
www.triplep-parenting.net/glo-en/home/

Resilience Trumps ACEs
www.resiliencetrumpsACEs.org

CDC-Kaiser Adverse Childhood Experiences Study
www.cdc.gov/violenceprevention/acestudy/

Zero to Three Guides for Parents
http://www.zerotothree.org/about-us/areas-of-expertise/free-parent-brochures-and-guides/

Thanks to the people in the Community & Family Services Division at the Spokane (WA) Regional Health District for developing this handout for parents in Washington State, and sharing it with others around the world.

Hand Model of the Brain-Dr. Dan Siegel

Make a fist with your thumb tucked inside your fingers. This is a model of your brain; your fist is the brain and your wrist and forearm are the spinal cord.

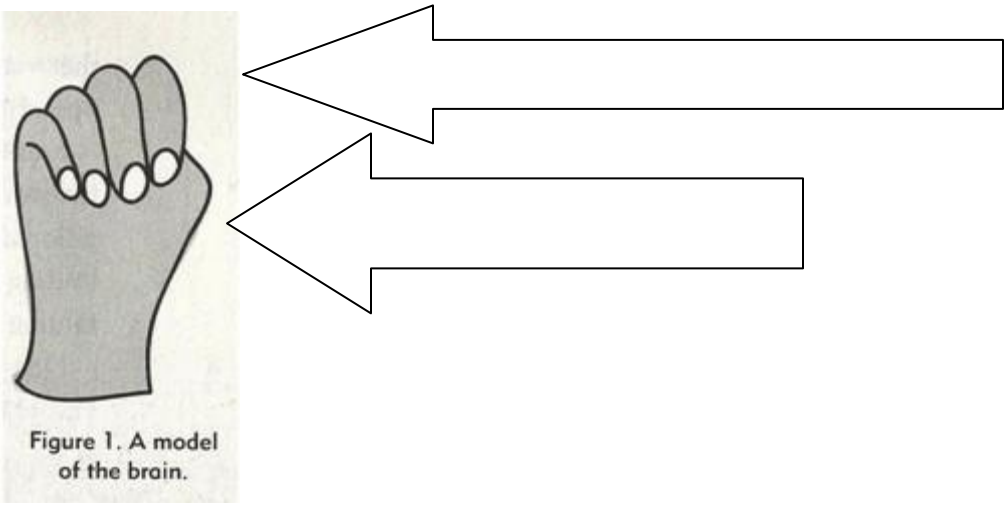


Figure 1. A model of the brain.

Your thumb, tucked in the middle of your fist, is the midbrain. This is where our emotions and memories are created and processed, as well as where the fight-or-flight reflex is triggered. The midbrain is our "emotional brain."

The back of your hand and fingers, encasing everything, is the cerebral cortex. This is where higher functioning occurs. This part of our brain allows us to think logically, act with kindness and empathy, and it houses our reasoning and problem-solving abilities. The cortex is our "rational brain."

The brain is set up to communicate with itself. It sends messages from section to section about what our bodies are feeling and needing. So, when a child screams, "NOOOO!" and lashes out to hit because he is angry, a parent's brain interprets this data as, "Hmm, I don't like this, and I need to be treated differently." Only we don't always react so calmly, right?

Take another look at your brain-fist. See where your fingernails are? This is the logic and reasoning part of the brain that kicks into gear when we have a problem to solve. But sometimes the emotional brain (thumb) and the rational brain (fingers) don't communicate so well. The emotions of the midbrain are simply too overwhelming, our fight-or-flight reflex triggers, and we "flip our lids." Now make all four of your fingers stand straight up. Flip.

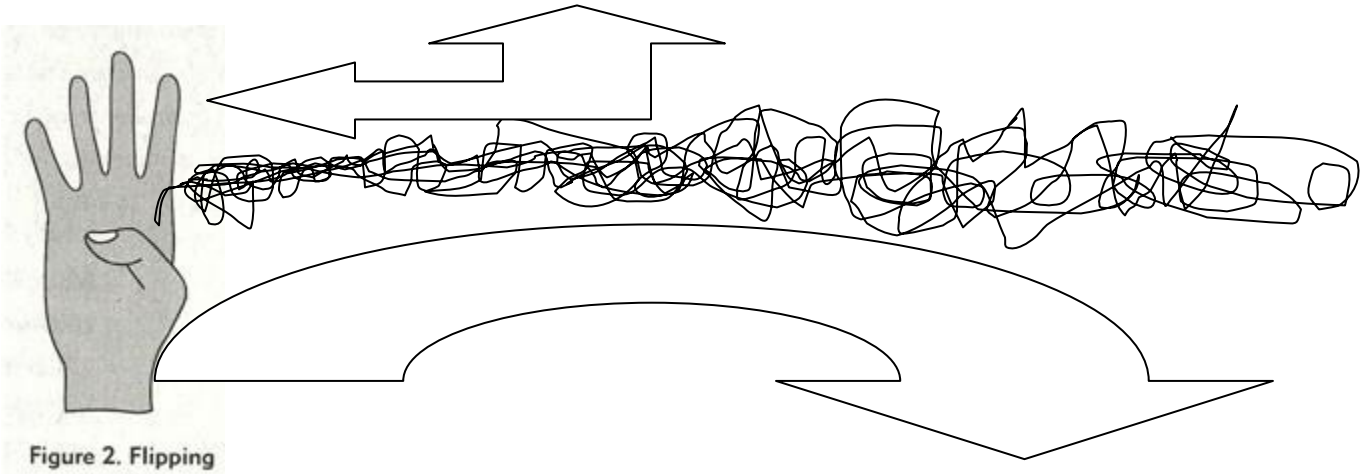


Figure 2. Flipping your lid.

See your fingertips now? See how far away from the midbrain they are? When we "flip our lids," our rational brains have a very poor connection with our emotional brains. Our feelings are intense, and we're not able to access the logical, problem-solving part of our brain. In order to restore our rational brain to its coherent state, we need to calm our anger and ease our fears (close fingers over thumb again).

Of course, our brains don't actually change shape like this, but this simple demonstration is a valuable tool in understanding how they function during emotionally charged situations. Both children and adults experience flipped lids. But as the human brain isn't fully mature (all parts communicating effectively) until the mid-twenties, children flip their lids much more often. They need a lot more help "re-connecting" the rational brain with the emotional brain—that is, calming down—and learning how to respond to strong emotions.

https://www.youtube.com/watch?v=DD-lfP1FBFk

Reflective Listening Skills

Why they are important?

- Show that feelings matter
- Show that it is possible to talk about uncomfortable or complicated feelings
- Show that we care about the child's feelings
- Teach the child that all feelings are acceptable, even though certain behavior is not
- Defuse an uncomfortable situation
- Reduce a child's urge to act out because the child feels heard
- Teach the child a vocabulary for articulating how they feel
- Reduce whining, anger and frustration

Basic Skills?

- Listening before speaking
- Deal with personal specifics, not impersonal generalities
- Decipher the emotions behind the words, to create a better understanding of the message
- Restate and clarify how you understand the message
- Understand the speaker's frame of reference and avoid responding based only on your own perception
- Respond with acceptance and empathy

From http://cultureofempathy.com