

Anatomy of the Hand Brain

Using the hand to explain the brain's response to stress.

The wrist represents the spinal column which houses the vagus nerve. This nerve runs through major organs of the body and delivers information to the brain. These messages connect with those coming in from our environment through our 5 senses (sight, sound, touch, taste, smell).

The palm of the hand represents the brain stem and is in charge of involuntary body functions such as breathing, digestion, heart beating, blinking, swallowing, etc.

The thumb represents the limbic system which contains the amygdala. The amygdala acts like a smoke detector for picking up possible danger cues from our environment. It does not analyze the danger, just detects threat. Threats go on to be analyzed by other parts of the brain based on past experiences held in our mental library.

Folded the fingers over the thumb represents the cortex. The cortex is associated with logic, rational, language, and awareness of time. The cortex takes in information and does something with it.

The phrase "flipping your lid" is used when the cortex disengages. The person then temporarily loses the ability to be logical, rational, have conversation, and keep track of time. The person is feeling under attack and is in survival mode. The amount of time it takes to reengage the cortex depends on their personal history and ability to regulate responses to threat.

Top 3 Goals of the Brain

1. Keep us alive
2. Keep us safe
3. Help us avoid pain

Reflection:

- What "flips your lid"? How does your body feel when you're "flipped"?
Hint: our body, through the vagus nerve, gives clues to your state of stress.
- Think of a time when a student was in a state of "flipped lid". Do you remember how you responded? How would you respond differently now that you know their cortex (where logic and language reside) is not accessible to them?

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Resources:

Video: [Dr. Dan Siegel's Hand Brain Explained By La Shanda Sugg](#)

Hand Outs:

1. ["Understanding Adverse Childhood Experiences \(ACEs\) from Spokane WA Regional Health District"](#)
2. [3 Realms of ACEs from ACEs Connection](#)

Books:

- The Whole Brained Child by Daniel J. Siegel, M.D., and Tina Payne Bryson, PH.D.
- *The Boy Who Was Raised as A Dog* by Bruce D. Perry, M.D., Ph.D. and Maia Szalavitz
- *The Deepest Well* by Nadine Burke Harris, M.D.
- *The Body Keeps the Score* by Bessel Van Der Kolk, M.D.
- *Buddha's Brain: The practical neuroscience of happiness, love, & wisdom* by Rick Hanson, Ph.D., and Richard Mendius, M.D.

Special thanks to our funders and partners who helped create this video series and accompanying materials:



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