

An Excerpt from a Transcript

Below you will find an **excerpt** of the transcript (including a full table of contents) from the NICABM webinar with Daniel Siegel, MD. Transcripts are a great way to review, take notes, and make the ideas from the webinar your own. Here's the sample:

The Neurobiology of Trauma Treatment: How Brain Science Can Lead to More Targeted Interventions for Patients Healing from Trauma

**with Daniel Siegel, MD
and Ruth Buczynski, PhD**

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How To Define

What Happens in the Brain During Trauma

Dr. Buczynski: Let's start by talking about what is going on in the brain when a person experiences trauma.

Dr. Siegel: *Trauma* as a term is often used to mean an experience that is overwhelming for a person, and clinicians use *trauma* in different ways.

“When we use the word trauma, we have to say, ‘What do we mean by trauma?’”

Of course, an emergency-room physician might talk about trauma as physically what happens to the body; a psychologist or social worker or psychiatrist in the emergency room might see it as an acute event that overwhelmed the person's ability to cope as a result of being in an accident or being sexually assaulted.

People use the word *trauma* in different ways.

When we use the word *trauma*, and you asked me what is going on in the brain, we have to force that apart and say, “What do we mean by *trauma*?”

Attachment researchers like me look at how trauma happens developmentally. If there are overwhelming events that happen early in life, repeatedly and in an intense way – for example, neglect – then that would be considered a trauma to the developing brain.

So my question back to you would be, “What do you mean when *you* are asking me what goes on in the brain with trauma?”

We want to know which kind of trauma *you* mean – that's true for any clinician, whatever field they work in.

Think about, for yourself, what does the word *trauma* really mean?

What do you mean when you are asking the question, “What's going on with my patient, my client, the person in front of me who's been traumatized – what does that really mean? Why am I using that term?”

The Optimally Functioning vs. Traumatized Brain as Defined by FACES

“When the brain is integrated, it is optimally functioning.”

Dr. Buczynski: Let’s narrow it down to people who are experiencing an emotional trauma – or perhaps a physical trauma, as in abuse. Let’s narrow it down in that way, as opposed to a trauma related to surgery.

Dr. Siegel: As we have talked about before, first of all, the brain is complex.

There are so many different parts to it as a complex system: there are a hundred billion neurons, there are trillions of supportive glial cells, and the overall system works by energy information flowing through its many differentiated parts.

“When you are not traumatized, your brain is integrated in creating a flexible, adaptive, and coherent flow that is energized and stable.”

(the acronym FACES)

When the brain is functioning well, those differentiated parts become linked, and in the linkage of differentiated parts, you create what is called integration. When the brain is integrated, it is optimally functioning.

When you are *not* traumatized, you are differentiating and linking your brain in the present moment – it is integrated in creating a flexible, adaptive, and coherent flow that is energized and stable over time.

“FACES is what well-being is.”

Energized means the system has vitality to it.

Stable means it has an equanimity or equilibrium that it is able to bring to itself.

That process spells the acronym *FACES*: *Flexible, Adaptive, Coherent, Energized and Stable*.

For me, FACES is what well-being is.

Before we get to the details of how old a person is or what kind of trauma it is or if the trauma is acute, one time only, or repeated or what adaptive mechanisms were in place before the traumatic event happened – and these

are all absolutely crucial elements to answer your question, “What is happening in the brain?” – there’s a more global statement to make.

“Trauma impairs integrative functioning in the brain.”

And that global statement, as far as my reading of the research literature on trauma and the brain, is that trauma impairs integrative functioning in the brain.

Brain functioning will stop being flexible – it will become inflexible.

The brain will stop being adaptive – it will become maladaptive.

Instead of being coherent, it will be incoherent.

Instead of being energized, it could be depleted or excessively aroused – not functioning with an optimal amount of energy.

“Re-integration is what repairs the brain.”

In terms of stability, it can have a strange instability – either repeating patterns that are recurrently dysfunctional, which from the outside looks stable, but the “stability” is recurrent dysfunction. (We use the word stability to describe the healthy way in which this system has equilibrium.)

All of that is the most global thing we can say about trauma, but there’s also this: re-integration is what repairs the brain.

So, we really need to ask specific questions: what was the context in which the trauma happened, at what time did it happen – what was the developmental framework – and what was this person like before the event?

Trauma will affect the specifics of the brain depending on all of those factors.

Dr. Buczynski: I appreciate you giving us the *FACES* acronym, and I want to say to practitioners, particularly those of you who are physicians or nurses, or occupational therapists, or physical therapists, if you have been working with someone and you find any of these traits different than what that patient has been like – *flexible, adaptive, coherent, energized and stable* – you could certainly look to see if there was some recent trauma.

This is especially true if you are a family physician or nurse practitioner

who's been seeing a patient over the last twenty years, and something seems to be different, you might want to consider a single-incident, recent kind of trauma.

What Dan just gave us is useful for looking at someone who may be affected by early childhood trauma, or *any* past trauma. Would you agree, Dan?

Dr. Siegel: Yes. This would be applied to any kind of trauma, but when we get into the details of which areas of the brain and what is exactly happening, we do want to know more specifically what the person was like before the event and the meaning of the event to their life.