1. Strategies to Calm People Down

Dr. Porges explains how to use the social engagement system to calm patients who are hypervigilant.

**Dr. Porges:** The social engagement system is the link between the control of the striated muscles in the face and head and the vagal regulation of the heart.

Once we start to articulate what those muscles do in the face and head, we start seeing all the strategies that people do to calm down.

One strategy is ingestion (not digestion), which utilizes the muscles of ingestion in the face.

The second place to look for cues for social engagement is in the upper part of the face, especially where the orbicularis oculi is located.

The third one would be the muscles of the middle ear, where we listen to prosodic features and trigger the neural regulation of those middle-ear muscles. When we do that, we start to turn off our priorities for detecting low-frequency sounds which are predators.
If you talk to trauma victims, they don’t want to go into noisy places because the low-frequency sounds scare them or make them feel uncomfortable.

That’s because the neural regulation of the striated muscles in the face and head got turned off. But they were turned off for a functional reason – if you turn them off, you become hypervigilant for a predator.

Here’s the important clinical information: when you deal with trauma victims and they start describing hypersensitivities to sounds and feeling vibrations that no one else seems to feel – not wanting to go into crowded places – they’re telling you that their nervous system is tuned to detect a predator.

Their nervous system is a neuroceptive state that has great advantages in detecting a predator, but is totally compromised in being social.

That means the new mammalian social engagement system with the myelinated vagus is turned off, and when it’s turned off, what are you left with? You’re left with underlying defensive strategies: either to fight or flee, or to disappear and shut down. (*pp. 10-11 in your transcript*)
2. How to Explain the Body’s Reactions to Trauma

Explaining to people how their body reacts to trauma can help them make sense of physical reactions that don’t always seem logical. This can facilitate better understanding and possibly make it easier for them to change those reactions.

**Dr. Porges:** We have to realize that our body – our nervous system – is making decisions, and it’s not allowing us to the table to argue our point.

The issue is our nervous system – we’re not making voluntary decisions.

If you talk to clients who have been traumatized and they are extraordinarily defensive about creating relationships – they don’t trust people – and you say to them, “You should trust people. You should go to places with other people,” how effective is that? It’s not effective at all.

But if you tell them, “Your nervous system is functionally like a TSA agent at the airport and every person who comes close to you is literally going through one of these scans.

To your nervous system, every person is a potential terrorist. The way to get all potential
terrorists off the plane or away from you is not to accept them.”

This is the neuroception of people who have been traumatized – they don’t want people to come close to them because their nervous system is making that evaluation.

Now, when you ask them on a cognitive level, they will probably say, “Look, I’d love to have good relationships. I’d love to be loved. I’d love to be able to hug, but my body is reacting this way.”

If we inform people about the features of their body’s response, which is literally these neuroception subcortical areas in our body reacting, then the higher cortical areas can interpret that and start inhibiting them at a natural level.

In other words, these defensive systems are at lower-brain structures – lower-brain levels.

When we get informed by what our body is doing without keeping ourselves in that mobilized, defensive state, but now in a more calm and relaxed state, we can actually develop a narrative that may be helpful in modulating those reactions. *(pp. 13-15 in your transcript)*
3. Play as a Neural Exercise

Playing is actually a way for mammals to develop neural pathways that reinforce fight/flight skills. Children do this as well when they play with each other. Dr. Porges explains how this can prevent us from being immobilized by fear.

**Dr. Porges:** Play recruits the aspects of what might be viewed as defensive systems with social engagement systems: we mobilize and yet we don’t hurt each other.

What we see as a unique theme that defines play in mammals is the need for face-to-face contact. They’re presenting the cues – and if they’re not maintaining face-to-face, they’re using vocalization cues.

They convey to the other that the other is safe to be with. We see this with many, many species of mammals.

Now, when we don’t play and we don’t use the face-to-face, we hurt each other.

We see this on a playground where there are children that no one wants to play with – those are children who have state-regulation disorders. They mobilize; they hurt others. They don’t want to hurt others – they’re just unaware of the degree of engagement.
The route back may be through aspects of play, which would enable mobilization. Then the regulation of the mobilization, since it’s a hierarchical system, would enable the social engagement system.

In terms of the definition of play – people used to think of play as either exercising fight/flight skills, and we see this if you watch small mammals.

You can recast that and say they’re not doing anything regarding hunting or fighting. What they’re doing is developing state-regulation skills – they’re creating a neural exercise that enables them to immobilize without fear near another later.

If you watch kittens and puppies, they’re always making face-to-face when they’re playing, and then they’re safe with that litter mate to sleep with. It’s not dangerous...they’re using the face to cap this mobilization. (pp. 17-18 in your transcript)

4. Single-Trial Learning and Trauma

What can taste aversion tell us about trauma? Dr. Porges describes single-trial learning and how we can to use it to treat trauma.
**Dr. Porges:** One metaphorical model of single-trial learning is taste aversion. In that model, many people got radiation treatments, they ate food, and then they could never eat those foods again because they got sick after the radiation.

The question now is what are the strategies that scientists have used to get people out of those reactions?

In the single-trial trauma reaction of shutting down, the person is normal or typical before this event, but after the event the person can’t go to public places, starts having all the symptoms of lower-gut issues, can’t deal with proximity with others, is hypersensitive to low-frequency sounds and even has severe issues of fibromyalgia and blood-pressure regulation.

Those people create a subset that provides us with a window, because their symptoms can be organized as symptoms of this old unmyelinated vagus – not really being dysregulated, but having overshot – they were used as a defense system.

Here’s the issue: when that old vagus is used as a defense system, it is functionally a single-trial learning case. Once it is used, the neural regulation is different afterwards, and that is very similar to the taste aversion model.

That type of information will hopefully provide sufficient insights to try to decouple the
mechanisms of this immobilization reaction to trauma. *p. 25 in your transcript*

---

### 5. How Tone of Voice Can Improve Therapy

The comfort of clients can depend on their practitioner’s voice. Dr. Joan Borysenko gives examples of how people can respond to someone’s tone of voice, as well as tips for improving speaking style.

**Dr. Borysenko:** Tone of voice is very interesting. I want to tell two very brief anecdotes and see how this relates to treatment.

At one point, I was an assistant professor at Tufts Medical School in Boston. I was young, and I wanted to get a lot of information in quickly. Students came up to me and said, “Can you please slow down? You talk so quickly that we get anxious. We’re afraid that we won’t be able to learn all the information.”

Now, I realize that the underlying fear is that my voice itself was making them anxious – how fast it was. But the fact was at that point in my life, I didn’t know how to modulate my voice – it was a monotone, and I only learned that through feedback.
One day, my brother asked me – “Have you ever wondered why your voice is such a monotone?”

That actually shocked me. Mostly we don’t hear or notice our own voice; I didn’t know mine was a monotone.

Suddenly, it came to me: somebody who talks really, really fast and in a monotone voice can be quite anxiety-provoking as a person. That was shocking to me.

I am a really good mimic, and so as soon as I knew what I was doing, I started to learn to modulate my voice so that it became more musical – there were more intervals.

Sometimes we need acting lessons or voice lessons! This came up to me again.

I had a physician at one time who talked like that: very, very quickly – so quickly – and without intonation. Every time I saw her, not only did I get anxious, but I felt as if she was so uncomfortable – what could I do to make her more comfortable?” My caretaking instincts came in!

Tone of voice is a set-up in some way for transference. A client sees his/her therapist and if that therapist looks anxious or looks uninteresting because their voice is in a monotone, that’s going to have an effect.
What I suggest is to make a recording of a session and see what your prosody is like.

Do you talk in a monotone? Do you modulate your voice? Do you stop for emphasis? All of those kinds of things make a very big difference.

What I hear now from people is that there is something about the way I talk which is inherently calming. So I want people to know it wasn’t always so – and that it is a learned skill. *(pp. 7-8 in your TalkBack transcript)*

---

6. Describing the Vagus System to Clients

It is usually helpful to know the reason why your body acts the way it does when something seems abnormal. Dr. Ron Siegel and Dr. Joan Borysenko share their insight on the benefits of explaining the vagus system to clients.

**Dr. Siegel:** We talked before about the kind of shame that people carry with them when they’ve been traumatized – they feel so badly about their symptoms.

So, not only do they have to suffer from their hyperarousal or hypoarousal and not only do they have to suffer from the various intrusive thoughts that happen and all the psychophysiological disorders, but they also
suffer from this terrible feeling that, “It’s my fault – there’s something wrong with me. I should be able to act like other people.”

Anything we can do to help people rejoin the human family is important. Our therapy needs to help them feel that their experience is simply the natural unfolding of forces and factors. It’s all quite impersonal.

It’s not about them being bad – or good for that matter – it’s simply what we would expect to occur to an organism at this point in evolutionary history – to one who has had this environmental experience. That is enormously relieving to people. (pp. 8-9 in your TalkBack transcript)

**Dr. Borysenko:** One of the main issues is that people feel ashamed of who they are.

Give them a framework that essentially says: “What else would you expect? This is simply what happens, physiologically, to somebody who has had the same experience.” This takes the whole overlay of shame away.

It gives people a sense of safety, and a sense of being understood. We all want to be seen and understood – that is so basic in terms of keeping an environment safe.

I have always been a great fan of psychoeducation for this very reason. We want to use whatever framework we have so that
people feel normal within that framework, and have that as the starting point.

In fact, the way that I usually work with people or work with groups is to have some sort of a presentation – it might be just spoken or at times a PowerPoint – but I say, “I’m treating you just the same way I would treat a colleague. We all need information. So, here is what we know about the particular set of circumstances that you face – what the physiology of that is.” I just tell them.

People are so happy to be treated in that particular way – not just understood but actually treated in a collegial way.

I’ll add to that by saying, “Now we both have the same understanding and we can work together within this understanding to help you shift your physiology and your behavior and your view of life.”

Teamwork and the fact that, “We’re all in this together,” is a really important part of Stephen Porges’s therapy. That is the social engagement part.

Presenting a framework like this brings people into the top of their vagal hierarchy. Maybe if we start from there that can be a great starting point. *pp. 9-10 in your TalkBack transcript*
7. How to Work with Dissociative States

Dr. Rick Hanson explains how the vagal system can be used to help understand dissociative responses, as well as methods that can be used when working with dissociative patients. He also offers an example to help practitioners get a sense of how to approach dissociated clients.

**Dr. Hanson:** The ‘freeze response’ is the most primitive, most ancient branch of the vagal system in which the parasympathetic branch radically shuts an animal down so it plays dead. But sometimes playing dead literally becomes dead. In various species of fish, they will literally sink to the bottom of the lake where there’s no oxygen and die.

I think it’s quite helpful to appreciate that in a dissociative response. Often the body is really quieting, down to a fault - it’s getting too quiet. So one way out of it is to do things at higher levels. In vagal hierarchy where, for example, we’re bringing in more sympathetic nervous system arousal, more engagement through things like inhaling - inhaling uses the sympathetic nervous system that’s the second branch of the vagus nerve.

Another way is to slowly and appropriately stand up, because as we stand up, the sympathetic nervous system activates to
maintain blood pressure so that we cannot faint.
Also standing up does other things as well which results in it being activated.

You can also look for intensity. When someone is in a dissociative state, they are, in effect, off the battlefield. They want to be ignored. Maybe that was adaptive in a certain situation, but these days it’s not that adaptive. So helping a person feel more energized, more activated, bigger, drawing attention to themselves, letting themselves be seen and things like that, are really quite helpful.

One more thing about dissociation is something I have a lot of compassion for because it’s a huge hijack.

I had a client who would routinely dissociate right in the middle of therapy sessions. It was almost like a kind of narcolepsy where she would just slump and slide out of the seat - she just had to go away.

What made her go away interestingly, was the experience of caring contact with me. To her that was so threatening - because it was associated with pain when she was a child, or the longing for it that was associated with pain.

These are very powerful states and often people are ashamed of them and hide them. They reclaim dissociation as a normal adaptive response, but sometimes it’s a good thing gone too far.
For people who dissociate right in the session, I get very soothing and literally at an animal level. I really feel like I’m trying to woo this terrified animal that’s hovering on the edge of this clearing where I’m sitting by my campfire. That’s how I think of myself sometimes - I am trying to help this person come out of the woods and feel safe enough, so I don’t want to startle them.

I want to move very slowly, make it easy and normal, going on being. I think it’s so important for these people because it literally feels like a moral threat. We don’t engage that system unless it’s our last, all-else fails method of freeze, because otherwise you get eaten. *(pp. 8-9 in your Next Week in Your Practice transcript)*