

## Safe & Sound Protocol (SSP) Frequently Asked Questions

### What is SSP

Based on years of research by Dr. Stephen Porges and his Polyvagal Theory, the Safe and Sound Protocol (SSP) is a five-hour therapeutic listening intervention designed to support the client's emotional regulation and neuroception (i.e. sense of one's safety), as well as decrease the client's auditory sensitivity. Neuroception is an extrasensory and unconscious sense of what's happening in your environment. Empathic people seem to have a super power with their ability to sense and feel people's feelings, emotions and intentions. This can cause an increase in autonomic awareness and heightened feelings. Good and bad, but this special skill can be used in a positive way to enhance healing and self care. The music is designed to stimulate the vagus nerve, which is responsible for calming the nervous system. This allows for enhanced social engagement and resilience in children and adults. The purpose of SSP is to create new, positive connections in the brain that allow the client to regulate oneself by "*stretching* the nervous system, not *stressing* the nervous system."

The proper functioning of the vagus is one of the most important determinants of physical and mental health, social communication, compassion and even creativity. If you have a complex chronic illness, understanding the vagus and autonomic system may help demystify what has likely been a confusing experience. The Vagus nerve influences many body systems and many seemingly unrelated symptoms it can be impacted when it's not working well.

There are many ways to improve vagal "tone" to access healing and wellbeing. Perhaps because they're fun and life affirming, they're often not taken seriously. As I healed and discovered how to stay well and balance my health challenges, I discovered that many ancient and well used techniques worked well, and complex and expensive programs were essential, yet not the basis of staying well. Dysautonomia and wellness requires an "all in" effort and it must become a lifestyle rather than an intervention. This SSP program allows you to retrain the vagus nerve via specially treated music that works with over the ear headphones and multiple virtual sessions with me to co-regulate and provide support and care. This strengthens the inner ear muscles that regulate our ability to mute or tune out unconscious high or low sounds. These sounds trigger danger responses in our nervous system. We are usually unaware of these sounds, but our nervous system is extremely interested in what's going around us.

### NEUROPLASTICITY

Our nervous system is adaptive. We can make changes our habits and brains our entire life. With the help of the vagus nerve, we can repeatedly give our body and brain the experience of feeling safe. The magic of neuroplasticity is that we are constantly forming new neural pathways and the more we have an

experience, the more new pathways are reinforced. If we're chronically thinking and talking about our problems or our symptoms, we're further reinforcing pathways of defense. The same and we can chronically help our body feel safe

### **What's safety got to do with it?**

We don't face animal predators or an enemy tribe, like our ancestors, but we still experience threat. It may be a family conflict, a toxic workplace, the evening news, a political facebook post, a honking driver or the tone of someone's voice. The threat may be recalling what we said or didn't say, or imagining we'll lose our train of thought in a presentation. It may be the endless chatter of what we have to do. If we experienced early life adversity or abuse, the threat may be a type of person or even people in general. It may be a smell or a sound related to an event we don't consciously remember. For those with complex chronic illness, random, frightening and confusing symptoms can lead some of us to experience our own body as the threat.

Other threats our body perceives, that our thinking **brain** may not, are microbes (candida, mold, virus including COVID 19, lyme, etc) and/or toxins from microbes. There are also the toxins we can accumulate from the outside (such as metal, chemical, and mold toxins) or a soup of all of our toxic exposures. We come into the world with a level of toxicity and we have a threshold that when reached alarms our body. How quickly this happens, if at all, depends on the amount of exposure and how robust our inherent ability to detoxify is. Our stress response was meant for infrequent threats, not daily living. The consequences of this chronic stress include a cascade of stress hormones, inflammation (the immune system's responses to threat) and the expression of certain genes, all of which lead to disease.

### **Neuroplasticity**

Our nervous system is more malleable than we might think. With the help of the vagus nerve, we can repeatedly give our body and brain the experience of feeling safe. The magic of neuroplasticity is that we are constantly forming new neural pathways and the more we have an experience, the more new pathways are reinforced. If we're chronically thinking and talking about our problems or our symptoms, we're further reinforcing pathways of defense. We can use that same method to teach ourselves and rewire our brains towards safety and peace.

### **The Brake**

Think of the vagus as the brake we can use when we need to decrease our physiologic reaction to stress. We can fine tune that brake and have it working so well that it starts to mitigate our body's response - even before we realize we're under stress. It allows us to become exceedingly resilient and able to bounce back to a calm state quickly. If that weren't enough, an ability to self regulate allows us (without conscious intent) to bring calm to those around us.

## How does the SSP work? The Technical talk

The SSP is an innovative intervention designed to improve an individual's social communication behaviors by reducing hearing sensitivities and improving the ability to process human speech. The SSP exercises the neural pathways associated with regulating behavioral state and social engagement. These are aspects of the Autonomic Nervous System (ANS). Just as the brain is plastic and can change based on experience, the ANS is also plastic. The SSP has been shown in peer-reviewed research to significantly increase vagal regulation of the heart – a vital component of ANS regulation. The vagus nerve is involved in the neural regulation of the face, head and viscera (organs). In mammals, the neural regulation of the autonomic state is integrated with the neural regulation of muscles involved with listening (middle ear) and vocalizing (larynx, pharynx).

From an evolutionary perspective, there are 3 neural circuits that form a response hierarchy. The newer circuit is social and reflects a well-regulated state that supports visceral organ homeostasis, as evidenced by good eye contact, relaxed facial expression, and prosody of voice. Individuals relying on this newer circuit respond well to human communication and are able to block out background noise to focus. The older circuits are associated with the flee (fight or flight) response or the freeze (shut down/collapse/pass out) response. Individuals relying on these circuits are more in-tune with lower frequency sounds (like background noise, which historically was needed in order to hear predators) and tend to be programmed to prioritize detecting danger from their environment.

When the middle ear muscles are inactive, lower frequency sounds like background noise are perceived much stronger than human voice. Patients are often easily startled and sensitive to background noise while having difficulty engaging in conversations, making eye contact, hearing people when there is background noise, or understanding the entire meaning behind certain phrases. The middle ear muscles are primarily fast-twitch and they fatigue easily. Illness, fever, and aging also reduce the function of the middle ear muscles.

When the middle ear muscles DO contract properly, the background noise can be dampened, the nervous system is less aroused or waiting to go into fight or flight/freeze mode, and the listener is better able to focus and perceive human speech (higher frequency sounds) properly.

Other potential benefits of improving vagus nerve tone include improvements in heart rate and blood pressure regulation, sweating, digestive function, facial expression, eye contact, voice intonations, memory and concentration, adrenaline rushes and adrenal dysfunction, understanding of human language and body language, ability to express oneself verbally or physically, insomnia, anxiety and depression, sensory stimulation to touch/sound/sight/taste, diversity of food choices, breathing, and much more.

Some bodies react to a history of trauma by going into a perpetual state of fight or flight, while others respond with a dissociative freeze response, where they are numb.

This response is how the body helped them to survive historically, but it is no longer necessary or useful once the person is removed from the situation and is actually safe. Over time, either one of these dysfunctional states, while never a conscious choice, can contribute to chronic system-wide health issues.

The SSP is not about the particular content or back-story of trauma, but rather, it's about honoring the body's response. The body has done what it's needed to do to survive, but the SSP enables patients to move into a state of "rest and digest" – a time for thriving, and not just surviving. The SSP is an invitation to help release healing and give the body the rest and the nervous system re-set that it deserves.

While virtually all patients who respond to this treatment have experienced some form of trauma (often considered minor or not even recognized by the patient), the SSP does not actively engage in conscious focus of trauma itself. How the body responds to trauma is never a choice, but this program is very distinct from psychotherapy in that trauma is addressed on a neural level without actually "treating" it overtly by re-living it. That being said, patients who have experienced severe trauma in the past ought to be working with a mental health professional alongside this treatment in order to see the best results. The SSP is a springboard for future growth, and not a standalone tool.

### **Who is appropriate for this treatment?**

Many types of clients benefit from the SSP. The majority of the research behind it has focused on individuals with autism spectrum disorders, but clinical improvements in many other conditions have been noted, such as

- Anxiety and depression
- PTSD, trauma histories
- Auditory hypersensitivities
- Long Haul Covid
- Dysautonomia/POTS
- Multiple chemical sensitivity
- Mast Cell Activation Disease
- Adrenal fatigue/dysfunction
- ME/CFS (myalgic encephalitis/chronic fatigue syndrome)
- Chiari malformation, intracranial pressure issues, and ECF leaks
- Mood dysregulation
- ADD and ADHD
- Motion sickness
- Misphonia (a strong reaction to certain sounds, such as dripping water, chewing, tapping)
- Auditory processing disorder
- Sensory processing disorder
- Emotional regulation difficulties

### **What activities are appropriate while listening to the SSP?**

Some patients relax with comfy pillows and blankets. Children and adults may use art therapy, coloring books, drawing, non-stressful simple board games, stress balls, puzzles, silly putty or play dough, or kinetic sand while listening. Children may also like to look at picture books or play quietly with blocks, bubble or other toys. Avoid

electronic toys, loud activities such as instruments, competitive games, or overstimulating activities. Some patients find that essential oils infusion is calming during the experience, but only try this if it's something you regularly use and know that you tolerate well.

### **What types of environment is best for the treatment?**

A calm and quiet environment is necessary for success with this treatment. Phones must be silenced and put across the room or outside of the room. Patients should wear comfortable clothing and the room should have a feeling of privacy and soft lighting. Remove as much background noise as possible, such as fans or air purifiers. Make sure the room is at a comfortable temperature. Have water nearby and consider a snack beforehand so you're not hungry.

### **What does the music sound like?**

The music playlists consist of an adult playlist and a child playlist. The child playlist consists primarily of Disney soundtracks. Because both playlists incorporate sounds at the frequencies that train the middle ear muscles, patients can choose whichever playlist they would like to use for the duration of their program. The music sometimes sounds funny, and sometimes it will sound very quiet. When it gets quiet, keep listening, and it will eventually get louder. Do not adjust the volume on the device after you've started your session for the day.

A few other tips: Make sure the headphones are on the correct ears (the cord should be on your left side). It's important to always use the volume test track to set the volume before the beginning of each session.

### **Can I use my own earbuds or speaker instead?**

If you are renting the machine, you must use the provided headphones. The SSP uses a specially designed system to deliver different auditory frequencies, so traditional headphones will not work with the machine.

If you are renting access to the smartphone or tablet app, you can use your own headphones as long as they are:

- over the ears (not earbuds)
- not bluetooth and not noise-cancelling

For children who do not tolerate the headphones, other options (such as animal headphones or a special type of speaker) are available on the ILS website.

- Headphone recommendations from iLs:
  - [Audio-Technica ATH-M20x Professional Monitor Headphones](#)
  - [OneOdio Wired Over Ear Headphones](#)

### **Can I exercise or sing while listening?**

Physical exercise (even walking) is discouraged during the listening as it can shift the nervous system state. Patients should be sedentary/completely relaxed during the listening sessions.

However, it's strongly encouraged that patients continue their exercise routine at another time during the day, without the music. Singing, use of wind instruments, and

breathing exercises are also encouraged during the day, in times when you are not listening to the SSP music.

### **What happens if I fall asleep during treatment?**

If it's short (like one song) you can continue the listening program for that day. It may be a good idea to repeat the entire session if you fell asleep for most of it.

### **I have epilepsy. Can I try the program?**

Individuals with a history of seizures must be on a medication to control the seizures and be seizure-free for one year prior to beginning the SSP.

### **I had tubes put in my ears, or I use hearing aids. Can I try the program?**

Yes. Individuals with these histories can use the headphones. Hearing aids may need to be taken out if the patient is getting frequent feedback issues. Cochlear implants should be left powered on with the headphone ear cup placed over the implant microphone as much as possible.

### **I have a cold, sinus infection or ear infection. Can I still proceed?**

It's best to wait until all symptoms have resolved before starting the SSP after any type of illness.

### **What symptoms can occur during the treatment?**

Whatever happens during the experience of SSP is positive. There is no "right" or "wrong" response. Some patients do not experience any symptoms at all. Many patients find that they feel fatigued after listening to the music on day 3, and this is a sign that the inner ear muscles are being strengthened. Some patients experience signs of autonomic nervous system responses, such as nausea, dizziness, sweating, heart rate changes, flushing, etc. while others do not notice anything at all. Some people also note tickling or itching in their ears. If these symptoms do occur, they tend to resolve in a number of seconds to minutes when the treatment is paused.

### **How should I handle symptoms when they occur?**

This program is not "no pain no gain." LESS is MORE. We need to honor our body's responses to it. There is no value in "pushing through" symptoms in order to reach a certain number of minutes of treatment. You, as the recipient of the listening program, need to be in tune with your own body in order to decide when to pause the music. Typically, if symptoms arise during listening, patients will hit pause and stand up, walk around the room, and get a sip of water. Sometimes we do breathing exercises together that help bring the system back into a state of rest and digest. After a few minutes pause, most patients are able to resume the music. Many patients find that it's a particular song that may be connected to the response, and they don't always continue to have a physical response when the music tones change. However, in the case where someone experiences more prominent or persistent symptoms, we will stop the treatment early for the day. The 5-day/1 hour per day frequency is not black and white, and it's ok to modify the length of session. Symptoms do not mean the

program is not working; rather, they are an indicator that the treatment is influencing the nervous system, and that is a good thing!

### **What should I keep in my SSP program log?**

For patients doing an SSP home program, it's helpful to keep a log of each day's session. Write down the volume level, start time, and timestamp on the MP3 player if you needed to pause or stop.

For all patients, make sure to keep a log of symptoms or changes noted both during the treatment as well as the other times of the day. Take particular note of your overall energy level, sleep, appetite, digestion, concentration, tolerance to noise, and level of alertness or irritability.

### **Do I need to repeat the protocol?**

Some patients find that they get added benefits when completing the entire program twice. Typically, the program benefits continue to come to light over the 6-8 weeks following the first intervention. Some patients may then decide they want to repeat it, usually between 8-12 weeks following the end of first program. Some scenarios may also warrant a repeat of the protocol, such as when the patient realizes they've had an ear infection during treatment, when they've undergone stressful life events during the week of treatment, or when extenuating factors have prevented them from completing the full program the first time