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# Safe and Sound Protocol (SSP)

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**Summary:** The Safe and Sound Protocol (SSP) is an auditory intervention (distinct from auditory integration therapy) that helps people that have troubles with feeling safe, and being connected, calm and social with others. This includes people with anxiety, trauma and neurodevelopmental conditions (such as ASD). SSP is based on polyvagal theory and was developed by Dr. Stephen Porges.

## Any of the Following?

Do you (or your loved one) have any of the following:

- Instead of finding social interaction calming, finding that hearing other people and background noise can be triggering and stressful?
- Instead of feeling calm and safe, finding that they tend to feel unsafe and on alert?
- Instead of wanting to connect with other people, finding instead that they prefer being away from other people?

If so, then read on to learn more about the Safe and Sound Protocol (SSP).

## Introduction

We use our senses to perceive the world around us. Sound is essential. Our ears allow us to hear sounds, and our brain makes sense of what we hear by perceiving and processing different frequencies.

To learn, work and play, our nervous system needs to be in a calm state emotionally and physically. To connect with people, we need to have a calm 'social engagement system'.

However, some people have sensitive nervous systems that become easily distressed from the sounds involved in typical social interactions such as

- Having to interact with people at home;
- Being in a classroom with peers.

These situations can be particularly stressful if there is background noise.
When triggered by sounds, the brain enters a defensive mode where:

- The brain focuses on frequencies of threat and danger such as lower frequencies, e.g. think a low growl or a low male voice.

- Conversely, the brain is less focused on frequencies of friendly communication, e.g. high pitched sounds.
- It is a vicious cycle -- as a person listens for more threats, they will perceive more threats, and it continues the cycle. In the ear, the middle ear muscles and neural network fall into learned disuse, and the stapedius muscle becomes lax which makes it easier to hear lower frequency sounds.
- The problem, however, is that some nervous systems become easily distressed from the sound of social interaction, e.g. talking with others; being in a classroom with peers; having to interact with siblings or parents at home.
- When your nervous system is under stress (or distress):
    - The body's alarm becomes activated in order to defend itself from the danger, and can lead to 'fight' (angry, irritability, aggression), or 'flight' (anxiety), or 'freeze' (so overwhelmed that the system freezes) or "shut down' (zoned out numb, dissociated.)
    - Your nervous system is not calm, which makes it difficult to learn, work and play, i.e. you are not in 'social engagement mode'.

People may have tried other treatments such as talking therapies. However, when one's nervous system becomes triggered by the very sound of other people, talking therapies don't work as well.

## What is the Safe and Sound Protocol (SSP)?

Developed by Dr. Stephen Porges, the Safe and Sound Protocol (SSP) involves listening to specially engineered sound that helps calm the nervous system and helps the person feel more safe, making it easier for them to connect with other people.

The Safe and Sound Protocol (SSP) involves listening to 5 hours of specially filtered songs.

There is an adult playlist (songs by The Beatlers, U2, Nora Jones, Etta James etc.) as well as a child playlist (songs from Disney movies such as Frozen, The Lion King, Toy Story etc.).

Listening is done at the listener's pace, as tolerated by their nervous system, anywhere from just a few minutes at a time up to one hour maximum per listening session.

This is repeated as tolerated, and as prescribed by a clinician trained in administering the Protocol.

While listening to the Protocol, listeners may do many things, provided they are non-electronic, do not involve speaking with others, and do not activate the nervous system's stress response (such as a frustrating puzzle). Activities should be relaxing.

Acceptable activities include: Playing with Lego, doing a simple puzzle, playing with playdough, drawing, going for a walk, etc).

Non-acceptable activities include: Talking to someone else, reading, doing complex tasks, using a smartphone, cellphone or computer.

The original protocol involved listening for 60-minutes / daily for 5-days, but it turns out that this was very difficult for many people, and clinically less effective, hence the current protocol.

Features of the engineered sound and auditory intervention in SSP includes the following:

- Low frequencies are removed, as they are a primal trigger for danger. Examples include the low frequency

growl of a predator, an earthquake, and even the sound of males. In the ear, low frequencies lead the eardrum to loosen, which makes the ear more sensitive to low frequencies, which leads them to hear more low frequencies, which becomes a vicious cycle.

- More high frequencies are used, as they tend to be calming and soothing. Examples include the high frequency way that mothers instinctually talk to soothe their baby, so-called baby talk or 'motherese'. In the ear, high frequencies cause the stapedius muscle in the ear to tighten, which makes it easier to hear higher frequencies, leading to a positive cycle.

- Over the course of the SSP protocol, different frequencies are used, and the volume is decreased and increased, in order to train and exercise the ear (stapedius muscle) and the brain (via the vagus nerve) in order to be less triggered by sound, and to feel safer. This occurs by allowing the ear to more easily filter out lower frequency background sounds, and focus on higher frequency sounds, as as the human voice.

## Benefits of SSP

People feel safer, as their fight/flight response is less engaged. People are more able to socially engage with others. They can more listen and understand and talk with others, including the emotional meaning of language. Over time, the person is better able to learn, engage and self-regulate.

## Who Might Benefit from SSP?

There are various situations where people appear to have sympathetic nervous systems easily triggered by human frequencies where appears to be helpful:

- Autism spectrum disorders (ASD)
- Sensory processing disorders (SPD)
- Attention/deficit hyperactivity disorder (ADHD/ADD)
- Trauma and PTSD
- Social engagement problems, i.e. problems connecting with other people socially
- Reading comprehension problems
- Sound sensitivity following brain injury (e.g. concussion)
- Gastrointestinal (GI) disruption due to nervous system overstimulation (e.g. reduction in binge eating behaviours, reduction in stress or anxiety-related diarrhea).
- Autism spectrum disorders (ASD).

## What Ages Can Benefit?

In general, people from age 2 and up.
How Long Do Benefits Last For?

- In general, peak results are seen at weeks 5-6.
- In many cases, effects appear to 'wear off' after 2-months. When this happens, it is recommended to repeat the therapy at 3-month intervals, so-called "booster sessions". Many therapists report that clients need 3-4 courses of therapy.

## Caution with SSP

Are there any of the following situations?

- Seizure in the past year? If so, then see a neurologist first.
- Bipolar disorder? Symptoms of psychosis, e.g. hearing voices? If so, then see a psychiatrist first.

## How can I find an SSP practitioner?

https://integratedlistening.com/about-ils/find-ils-locations/

## For More Information

Information about SSP from Integrated Listening (ILS)
https://integratedlistening.com/ssp-safe-sound-protocol/
Videos

- 4-min. video explaining the Safe and Sound Protocol:
- 9-min. video explaining trauma's affect on the nervous system:
- 1.5-min. explaining SSP from Dr. Stephen Porges (using scientific language)

## References

Porges S, Bazhenova O, Bal E, Carlson N, Sorokin Y, Heilman K, Cook E, Lewis G: Reducing Auditory Hypersensitivities in Autistic Spectrum Disorder: Preliminary Findings: Evaluating the Listening Project Protocol. Front Pediatr. 2014; 2: 80.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117928/

## About this Article

Written by the health professionals at the Children's Hospital of Eastern Ontario (CHEO), Ottawa, Canada. Special thanks to: Heather Hodgins-Chan, OT in private practice; Christie Byvelds, RSW at CHEO and in private practice. Competing interests: Some of the professionals consulted for this article (such as occupational therapists) may use the Safe and Sound Protocol (SSP) in their clinical work.

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