CASE REPORT

Increased Nervous System Flexibility Following an Extended Shiftwave-Assisted Therapy Intensive in an Adult with Complex Trauma, Chronic Hypervigilance, and Sensory Sensitivity: A Case Report

Theresa Hubbard, LMFT

Kansas City Neuroplasticity Institute, Liberty, Missouri

Correspondence: theresa@theresahubbard.com | www.kcnpi.com

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Abstract

Background

Complex trauma in adults frequently presents with chronic hypervigilance, heightened interoceptive and sensory sensitivity, sleep disruption, shame, and a pattern of enduring distress. Shiftwave is a proprietary technology designed to engage the autonomic nervous system through structured body-based protocols and is being clinically explored for applications related to stress, trauma, mental health, and nervous system regulation. This case report describes clinical observations from a structured Shiftwave intensive in an adult with a long trauma history and marked sensory sensitivity, integrating session-by-session self-report, a pre/post neurocognitive battery, and pre/post EEG monitoring.

Case Presentation

P006 is a 48-year-old woman with a history of complex trauma, including prior sexual exploitation and long-term opioid use and recovery, who had been in ongoing psychotherapy with the treating clinician for approximately eight years. She presented with chronic hypervigilance, avoidance, shame, disrupted sleep, which is representative of a nervous system that behaves as though safety is not fully available. An intensive originally planned as two days was extended to approximately one week because her system proved highly sensitive to sensory input, guided language, and pacing. The work combined repeated but carefully titrated Shiftwave protocols with relational containment, integration time, and pre/post data collection.

Outcomes

Across 17 recorded sessions with sometimes multiple protocols experienced each session, state anxiety (STAI-S) fell in 13 of the 16 sessions with paired pre/post data, from a mean of 40.4 to 29.1. The protocols she repeatedly identified as supportive — Sensorial and Guided Alignment — produced the largest and most consistent reductions, while an introductory guided protocol on the first morning raised her anxiety from 47 to 63 and left her feeling, in her words, “scared to death.” A pre/post neurocognitive battery showed a mixed, fatigue-shaped picture: higher scores in reasoning, simple attention, processing speed, and social acuity alongside declines in working memory and sustained attention on a post-test administered on the final day with an anticipated over 25-hour bus ride back to her home. Because the battery repeats a fixed set of items at both administrations, the reasoning change is best read as familiarity with previously seen items rather than as a gain in reasoning ability. Distress and sleep measures remained high or worsened, and the participant began using sleep medication during the intensive window. Pre/post EEG monitoring, resolved to the eleven electrode placements of the

baseline protocol, showed no global slowing or speeding; its one coherent change was a reduction in the usual posterior dominance of eyes-closed alpha, which fell 42% at O1 and 36% at O2 while central alpha rose — an anterior shift associated with lower arousal, recorded on the final day of the intensive, and descriptive only. Follow-up reports through the fourth week home described the same flexibility continuing in daily life, including a marked reduction in nightmare-related activation, an emerging awareness of emotional dose, a shift from waiting to feel regulated toward building the conditions for regulation, and the return of playful creativity. Taken together, the most meaningful outcome was not symptom elimination but increased nervous-system flexibility: the capacity to stop a triggering protocol, ask for what she needed, remain present during activation across multiple daily life activities, listen to her body, build conditions for recovery, and adapt to real-world stress.

Conclusion

This case suggests that Shiftwave may be valuable for highly sensitive adult trauma clients when it is embedded in a relationally safe, choice-based, carefully paced process with protected integration time — and that the clinically important changes may appear first as shifts in agency, presence, body listening, and function rather than as global symptom reduction.

1. Background

Adults with complex trauma histories often arrive in treatment with substantial cognitive insight into their own patterns and, at the same time, a body that continues to brace, scan, and endure as though threats were ongoing (van der Kolk, 2014). Polyvagal accounts frame this persistence as a nervous system biased toward defense, in which autonomic state, rather than conscious appraisal, sets the terms of safety and engagement (Porges, 2011). Conventional talk-based therapeutic interventions can reach the understanding without reliably reaching that physiology, and body-based approaches that engage the autonomic nervous system directly — through breath, movement, and interoceptive attention — have been of growing interest for exactly this gap between what a client knows and what her body is able to do (Ogden, Minton, & Pain, 2006; Payne, Levine, & Crane-Godreau, 2015). Heightened, and often distressing, awareness of internal bodily signals is itself a common feature of this presentation and a plausible point of leverage for such approaches (Craig, 2009).

Shiftwave is a proprietary technology that delivers structured somatic protocols intended to engage the autonomic nervous system through rhythm, sound, guided language, breath pacing, and sensory input. It is being clinically explored, for stress, trauma, and nervous-system regulation. This report describes a single extended intensive with one adult participant. It is offered as a detailed clinical observation, not as evidence of efficacy.

The participant, P006, had worked with the treating clinician in ongoing psychotherapy for approximately eight years before the intensive. Prior to the intensive she had expressed curiosity about whether a body-based intervention might help her "thinking brain" and her body come into closer alignment. The clinical premise was not that she lacked understanding. It was that her body continued to behave as though safety were unavailable, and the question was whether it could begin to experience something different.

2. Patient Information

2.1 Demographic and Contextual Information

P006 is a 48-year-old woman. She traveled a long distance by bus to attend the intensive, arriving after a period of significant anticipatory activation, disrupted sleep, trauma-history writing, and medication-related nervous-system sensitivity. She lives in a home environment she experiences as a source of scrutiny and tension, and she described automatic surveillance behaviors even in ordinary domestic tasks such as listening for footsteps and checking reflections before leaving her room.

2.2 Chief Concerns and Presenting Context

P006's presenting picture included longstanding trauma, chronic hypervigilance, avoidance, shame, relational instability, heightened sensitivity to body sensations, and difficulty allowing her body to settle without scanning for threat. She described a pattern of enduring and "pushing through" uncomfortable experiences rather than interrupting them — a pattern that would become a central treatment target. She was curious about Shiftwave and whether it could help her feel safer in her own body.

2.3 Medical and Psychiatric History

P006 was born needing significant medical care that entailed surgeries, full body brace and cast with limited physical contact until the age of three. She has a complex trauma history that includes commercial sexual exploitation (reported as occurring approximately 15 to 18 years prior) and long-term substance-use recovery, with a longer period of sobriety at the time of the intensive. A structured self-report battery completed on the first morning documented the clinical picture quantitatively. On the PTSD Checklist for DSM-5 (PCL-5) she scored 58, well above the common provisional-diagnosis threshold of 33, with the most severe items concentrated in avoidance, negative alterations in cognition and mood, and sleep disturbance. On the Depression, Anxiety and Stress Scales (DASS-21) her depression, anxiety, and stress subscales all fell in the extremely severe range. Sleep was markedly disrupted (Pittsburgh Sleep Quality Index total of 12, with fragmented sleep, panic nightmares, and night sweats described in her own words). The Adult OCD Inventory returned a mild elevation, and a neuropsychiatric symptom screen flagged severe anxiety, panic, fatigue, sleep, and pain. These baseline values are reported here as the clinical context the intensive was working within, not as diagnostic conclusions.

2.4 Developmental and Social History

P006 described a history in which safety, trust, and being seen had repeatedly been unsafe. She connected her present-day social avoidance to a fear of "being herself," of "existing in a room with others," and of being defined by what others knew about her past rather than who she is now. She had been in continuous therapeutic work with the treating clinician for roughly eight years, and entered the intensive with an established relationship of trust that shaped how the work could proceed.

3. Clinical Findings

3.1 Pre-Intensive Presentation

P006 arrived activated and sensitized. A core clinical observation emerged on the first day: her body appeared highly reactive to sensory input, relational safety, language, sound, vibration patterns, and shifts in intensity. Her responses suggested that a short, high-density intensive would likely have been too much for her system. This observation reframed the intervention almost immediately, and the guiding question throughout became: what does P006's body need

next, and how do we help her listen to that information with enough trust to know she has a choice?

3.2 Observational Findings During the Intensive

The following observations are drawn from the clinician's session sheets, an audio-recorded protocol log kept to preserve the participant's own words and reduce recall bias, and post-session correspondence. They are offered as clinical observations rather than measured effects.

Sensitivity to Guided Language

During the first guided introductory protocol, P006 became emotionally activated. She reported that the early portion made her cry, that the word "resilience" created a warm and calm feeling contrary to a common extreme negative reaction to the word, that a later section made her jittery, and that the ending made her feel "scared to death." The clinician suggested shifting the direction of work and moved toward a more predictable, unguided protocol with sound and pattern rather than voice. This was an early and important data point: P006's system was reactive not only to vibration but to guided language, tone, pacing, and conceptual content. Predictability and reduced verbal demand became variables the work tracked closely.

The Emergence of Agency: Learning That She Could Stop

Early in the intensive, during a repeated SS Meditate sequence, P006 cried, entered a deep sleep state, and later became activated with foot, hand, and jaw movement. When she emerged she reported feeling annoyed, tight, wired, and tired, with jaw pain and clenching, and said she had been thinking "get me out of here" without saying it aloud. She initially responded that she "can't" stop, because in her internal pattern she believes she has to complete the experience. This became one of the most important teaching points of the intensive. The clinician reframed the work as titration — stepping in, stepping out, activating and recovering, and learning that stopping is not failure. By later sessions P006 was choosing which protocols to try, how much vibration to use, whether to repeat, whether to stop, and whether to rest. The clearest example came when she stopped the Labyrinth protocol within about five minutes because its music triggered an association with a prior abusive relationship. Her historical pattern is to endure; stopping was understood as self-protection and agency.

Protocol Differentiation

P006's responses varied sharply by protocol, and the differences were clinically informative rather than incidental. Sensorial became one of the clearest "yes" protocols; she described it repeatedly as quieting her brain, and after one session said, in the audio-recorded log, "That was amazing... It was so relaxing. And I felt like I didn't need to breathe... just like not even here in this room anymore." Guided Alignment became a favorite despite her early wariness of guided content; she called it "the most amazing one ever," described tingling extremities and lava-lamp-like visual impressions, and did not want to get up afterward. Day at the Beach was strongly regulating because its ocean-wave rhythm matched a familiar embodied template of breath-holding and floating. By contrast, River Master felt chaotic and "too much" despite also being water imagery. This is an important distinction because it showed her body responded to the quality of the sensory pattern, not the category of the imagery. Evolver was "cute" but not meaningful, and SS Meditate BioDrive left "too much space to think."

Intensity as an Agency Variable

One of the more counterintuitive findings was that P006's ideal vibration level could not be predicted from her trauma history. Although she was highly sensitive, she did not always require low intensity. At times she preferred higher vibration — raising Sensorial into the low-to-mid 70% range — because it felt containing, rhythmic, and organizing, and quieted her mental chatter. The clinician treated intensity as an agency and regulation variable rather than as a measure of therapeutic depth, and emphasized tracking and trusting the body's response rather than attaching to a number.

Interoception, Somatic Response, and Sleep

As the intensive progressed, P006 became increasingly aware of body sensations, which was both useful and uncomfortable. She described tingling feet, calf sensations, jaw tension, headaches, and, with characteristic humor, sensations like her "bones itching." Clinically, this appeared consistent with decreasing numbing and increasing interoceptive awareness, which meant the work needed to help her tolerate sensation rather than simply increase it. A notable early change was that, for the first time in weeks, she did not wake with jaw pain after an early session — though jaw pain returned after an extended protocol, suggesting jaw tension remained a sensitive marker of overwhelm. Although overall sleep quality remained poor and standardized sleep scores worsened, P006 later reported a qualitative change in nightmare-related activation. She stated that since the first night of the intensive she had not experienced the kind of traumatic nightmare that woke her with adrenaline, sweating, disorientation, rocking, and crying. Trauma-associated figures and emotionally significant people still appeared in dreams at times, but she described these dreams as less frightening and less likely to wake her.

Emotional Processing and Self-Relationship

The most significant emotional processing emerged in connection with Sensorial and Guided Alignment. P006 spoke internally to the part of herself associated with addiction, telling that part she was sorry, safe, worthy, loved, and enough, and that "I trust you" — which she identified as a major shift, connected to a memory of her father telling her after sobriety that he trusted her more than anyone in the world. This emerged through the combination of sensory support, safety, relational presence, and protected time afterward, rather than through directed trauma processing.

3.3 Quantitative Self-Report Findings

State anxiety and affect were measured before and after protocol sessions using the State-Trait Anxiety Inventory, state form (STAI-S, range 20–80, where lower is better), and the Positive and Negative Affect Schedule (PANAS), with a Positive subscale on which higher is better and a Negative subscale on which lower is better. Not every session included a completed pre-session form; those entries are shown with post-only values, and a dash (—) indicates data not recorded for that cell. Session 7 followed directly from session 6, and session 6's post-session anxiety score is carried forward as session 7's pre-session value. Table 1 presents all three self-report measures across the recorded sessions; Figure 1 shows the session-by-session change in state anxiety and Figure 2 the change in affect.

Table 1. Pre/Post Self-Report Scores by Session

No.	Date	Time	Protocol	Pre STAI	Post STAI	Pre PANAS +	Post PANAS +	Pre PANAS −	Post PANAS −
1	6/27	9:30am	This is Shiftwave	47	63	18	—	26	—

No.	Date	Time	Protocol	Pre STAI	Post STAI	Pre PANAS +	Post PANAS +	Pre PANAS −	Post PANAS −
2	6/27	9:50am	SS Meditate 15 / SS Meditate 30 (x3)	70	67	—	—	—	—
3	6/27	5:30pm	Day at the Beach (x2) / River Master / Sensorial	55	23	28	19	29	10
4	6/28	8:45am	Out of Your Head	32	34	34	33	20	18
5	6/28	11:10am	Guided Alignment	29	22	32	38	19	14
6	6/28	2:10pm	Evolver	28	31	26	31	15	18
7	6/28	2:25pm	SS Meditate / Sensorial / Labyrinth / Sensorial	31	22	—	34	—	14
8	6/28	7:00pm	Guided Alignment	26	22	32	39	17	13
9	6/30	4:25pm	Sensorial (x4)	34	24	33	39	29	12
10	7/1	6:00pm	Sensorial / Guided Alignment	30	22	40	40	17	11
11	7/2	11:00am	Sensorial	—	41	—	34	—	22
12	7/2	12:35pm	Guided Alignment	70	22	44	35	28	13
13	7/2	7:30pm	Guided Alignment	33	20	40	38	11	10
14	7/3	12:00pm	Sensorial (x3)	44	22	31	37	13	12
15	7/3	1:20pm	SS Meditate Express / SS Meditate 30	24	23	34	—	12	—

No.	Date	Time	Protocol	Pre STAI	Post STAI	Pre PANAS +	Post PANAS +	Pre PANAS −	Post PANAS −
16	7/4	12:10pm	Sensorial (x4)	44	22	34	36	14	10
17	7/5	8:50am	Sensorial (x4)	49	27	35	30	23	12

Across the 16 sessions with paired pre/post STAI-S data, state anxiety fell in 13 and rose in 3, and the group mean moved from 40.4 to 29.1. The three increases are clinically informative rather than noise. The largest was the first morning's introductory protocol ("This is Shiftwave"), where anxiety rose from 47 to 63 — the session in which she cried and felt "scared to death," and after which the clinician changed course toward unguided, predictable input. The two other small increases followed Out of Your Head and Evolver, protocols her narrative account also identified as less regulating. The largest single reduction, from 70 to 22, followed a Guided Alignment session on July 2 that came after a real-world errand outing, a context that had historically left her dysregulated.

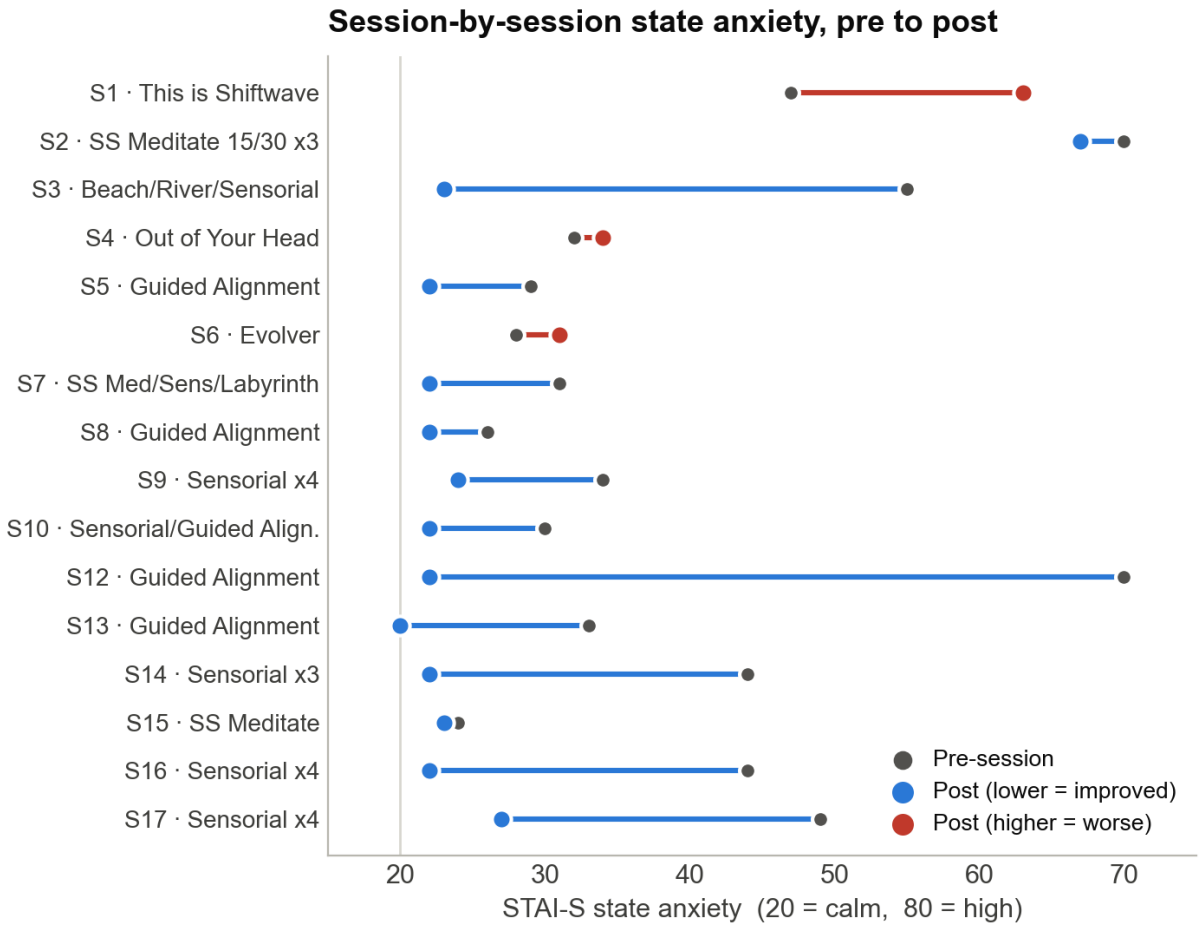

Figure 1. Session-by-session STAI-S state anxiety, pre to post. Most sessions show a reduction (blue); the first introductory protocol and two lighter protocols show an increase (red).

Affect followed the same direction on the Negative subscale and was flatter on the Positive subscale. Across the 12 sessions with paired affect data, negative affect fell from a mean of 19.6 to 12.8, while positive affect was essentially unchanged, moving from 34.1 to 34.6. The pattern is consistent with the narrative: the protocols reduced distress more reliably than they manufactured good feeling, and the most meaningful shifts were in the body's sense of threat rather than in mood elevation.

Session-by-session affect, pre to post

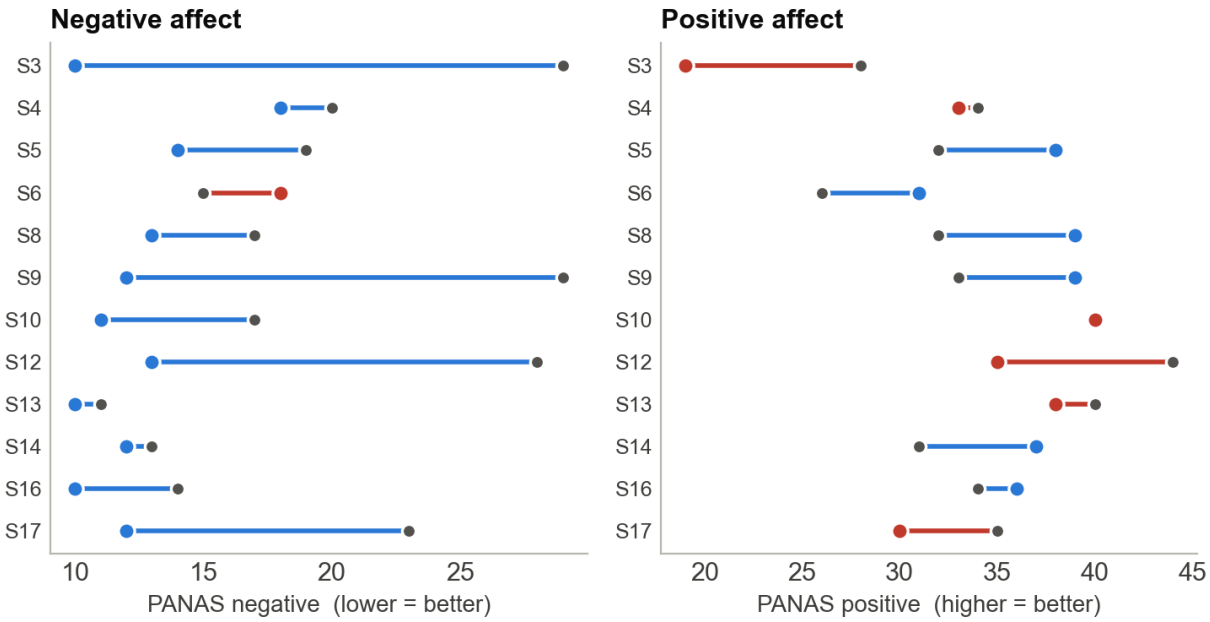

Figure 2. Session-by-session affect, pre to post. Negative affect (left) declined across most sessions; positive affect (right) was mixed and roughly flat overall.

4. Timeline

The intensive was originally planned as a two-day experience and was extended to approximately one week after the first day, because P006's system was clearly responding but needed slower pacing and more recovery time than a two-day structure would allow.

June 26, 2026 (evening): Pre-intensive EEG baseline recorded (see Section 5 and the Appendix).

June 27, 2026 (morning): Pre-intensive neurocognitive battery (CNSVS) and self-report completed. Introductory Shiftwave protocol produced early activation and crying; work shifted to unguided, predictable input. Decision made to extend the intensive.

June 27–July 4, 2026: Titrated protocol exploration with protected integration time — Day at the Beach, Sensorial, Guided Alignment, Out of Your Head, Evolver, River Master, SS Meditate variants, and a stopped Labyrinth attempt — interleaved with rest, food, sleep, conversation, a grocery outing, and, by the end, watching fireworks from a window rather than retreating into shutdown.

July 5, 2026 (morning): Final Sensorial session.

July 5, 2026 (early afternoon): Post-intensive neurocognitive battery (CNSVS) and post-intensive EEG monitoring recorded on the final day before the extended bus ride home.

July 5 - 6, 2026: Return bus travel home, later reported as a real-world stress test.

July 7–12, 2026: First week home, documented in a post-intensive log.

July 13–30, 2026: Second through fourth week home, documented in a post-intensive log.

5. Diagnostic Assessment

Pre-Intensive Neurocognitive Baseline (CNSVS)

A computerized neurocognitive battery (CNS Vital Signs) was administered on the first morning to characterize P006's cognitive baseline. Most domains fell in the average to above-average range, with two clear exceptions: Reasoning was very low (standard score 54, first percentile) and several attention and processing domains sat at the lower end of average. The embedded symptom scales, by contrast, documented a heavily loaded clinical picture — severe anxiety, panic, fatigue, sleep disturbance, and pain — that is carried in Section 2.3 and revisited at post-test in Section 7. The pre-intensive domain values are reported alongside their post-intensive counterparts in Table 2 (Section 7.5) so the change can be read in one place.

Pre-Intensive EEG Baseline

An EEG baseline was recorded on the evening of June 26, 2026 using a portable four-channel neurofeedback system (EEGer), sampled at approximately 256 Hz. The baseline protocol steps a single recording electrode through eleven placements in a fixed order — Fz-A1, Cz-A1, Pz-A1, C3-A1, C4-A2, C3-C4, F3-A1, F4-A2, F3-F4, O1-A1 and O2-A2 — capturing 60 seconds eyes-open then 90 seconds eyes-closed at each. Placement and eye condition are read from the recording's block structure, and only the first data channel is interpretable; both are described in the Appendix. The EEG remains descriptive single-channel monitoring, and its pre/post comparison is presented in Section 7.6.

6. Therapeutic Intervention

6.1 Overview of Intensive Design

The intensive was not structured as formal trauma processing or exposure therapy. Its primary aim was to support P006's nervous system in experiencing safety, rhythm, choice, state-shifting, embodied awareness, and recoverability through repeated but carefully paced Shiftwave exposure within a highly attuned relational environment. When her first day revealed how sensitive her system was, the design changed deliberately: shorter daily intervention windows, larger recovery windows between protocols, and substantial time for sleep, food, hydration, protocol processing, conversation, and integration. The clinical arc was intentionally not "protocol, result, next protocol" but "protocol, pause, body response, integration, observation, next decision."

6.2 Shiftwave Protocols

Over the week, P006 engaged with an introductory protocol ("This is Shiftwave"), SS Meditate (15- and 30-minute forms, including a BioDrive variant), Day at the Beach, River Master,

Sensorial, Guided Alignment, Out of Your Head, Evolver, and a brief, intentionally discontinued Labyrinth attempt. Protocol selection was individualized session to session based on her body's need and response, and vibration intensity was treated as a chosen, adjustable variable rather than a fixed prescription.

6.3 Non-Shiftwave Intervention Components

The relational and environmental container was treated as part of the intervention, not its backdrop. P006 repeatedly commented on the quiet, peacefulness, and kindness of the clinician's space, at one point crying while watching a bird because the environment felt peaceful. She contrasted this with a home environment she experiences as scrutinizing. Additional components included nervous-system psychoeducation, real-world exposure (a grocery outing, and watching fireworks from a window rather than isolating), coaching around asking for needs and declining social demands, and, most consistently, protected post-protocol integration time.

7. Outcomes and Follow-Up

This section starts with a report of the neurocognitive battery and EEG recording administered on the intensive’s final day. Then the changes after the intensive are reported. This section rests on direct clinician observation through July 5; from P006's departure on July 5 onward, no in-person observation was available, and the record consists of the patient’s own reports which were collected using a conversational AI tool given to the patient.

7.1 Post-Intensive Neurocognitive Findings (CNSVS)

The neurocognitive battery was repeated on the early afternoon of July 5, the final and most fatigued day of the intensive and anticipatory travel. The result is genuinely mixed, and the fatigue and travel context matters for reading it. Several domains improved, some substantially: Reasoning rose from a standard score of 54 to 76, Simple Attention from 94 to 106, Processing Speed from 91 to 97, and Social Acuity from 117 to 124. Other domains declined, including Working Memory (121 to 112) and Sustained Attention (119 to 114). The Reasoning domain is derived from a fixed set of fifteen visual matrices presented at both administrations; her raw score moved from 5 to 8 correct, and this change is best understood as familiarity with previously seen items rather than as a gain in reasoning ability. Table 2 and Figure 3 present the full domain picture.

Table 2. CNSVS Domain Standard Scores, Pre- and Post-Intensive (higher is better)

Domain	Pre	Post	Δ
Reasoning	54	76	+22
Simple Attention	94	106	+12
Social Acuity	117	124	+7
Processing Speed	91	97	+6
Psychomotor Speed	103	106	+3
Motor Speed	110	111	+1
Cognitive Flexibility	104	104	0

Domain	Pre	Post	Δ
Executive Function	103	103	0
Neurocognition Index	100	99	−1
Visual Memory	107	104	−3
Complex Attention	111	108	−3
Verbal Memory	85	82	−3
Reaction Time	88	84	−4
Composite Memory	96	92	−4
Sustained Attention	119	114	−5
Working Memory	121	112	−9

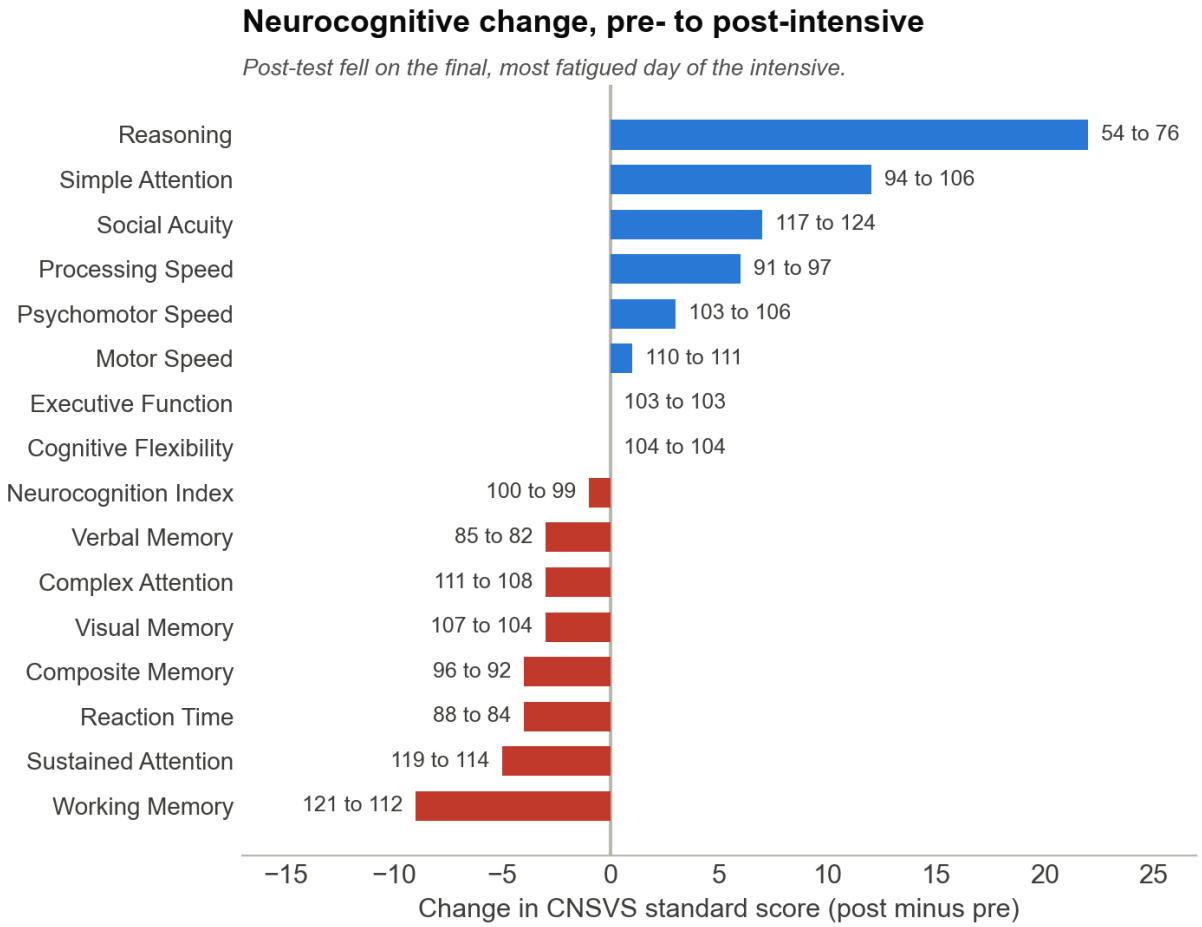

Figure 3. Change in CNSVS standard scores, pre- to post-intensive. The post-test was administered on the final, exhausted day of the intensive.

The embedded symptom scales are reported in full in Table 3. Self-reported attention, mood stability, fatigue and pain improved from pre to post, the OCD screen eased slightly, and the suicidality screen fell to zero. Other domains moved in the opposite direction or not at all: self-

reported anxiety, impulsivity and memory concerns rose, while panic, depression and sleep remained at their pre-intensive severity. The core distress and sleep measures held high or worsened: DASS stress rose (32 to 42) and sleep quality worsened (PSQI 12 to 16), a change driven largely by the initiation of sleep medication during the intensive window, which accounts for three of the four points. The PCL-5 total was essentially unchanged (58 to 59), but its cluster scores moved in opposite directions: intrusion symptoms fell from 12 to 8, including the item on repeated disturbing dreams, while negative alterations in cognition and mood rose from 23 to 27.

Table 3. Embedded Symptom Scales, Pre- and Post-Intensive (lower is better)

Measure	Pre	Post	Direction
NPQ Attention	80	40	improved
NPQ Mood Stability	175	100	improved
NPQ Fatigue	267	200	improved
NPQ Pain	225	175	improved
NPQ Suicide	33	0	improved
NPQ Aggression	25	25	unchanged
NPQ Panic	233	233	unchanged
NPQ Depression	220	220	unchanged
NPQ Sleep	300	300	unchanged
NPQ Anxiety	250	267	worse
NPQ Impulsive	140	180	worse
NPQ Memory	50	100	worse
OCD Inventory (mean)	90	75	improved
DASS Depression	34	32	roughly stable
DASS Anxiety	36	36	unchanged
DASS Stress	32	42	worse
PCL-5 PTSD (total)	58	59	roughly stable
PCL-5 intrusion cluster	12	8	improved
PCL-5 negative cognition/mood	23	27	worse
PSQI Sleep (total)	12	16	worse

7.2 Post-Intensive EEG Monitoring

An EEG recording matching the pre-intensive baseline protocol was collected on the afternoon of July 5, 2026. Both recordings contain the full eleven-placement structure — 22 recording blocks alternating 60 seconds eyes-open and 90 seconds eyes-closed — which makes them directly comparable placement by placement. Both carry the limitations described in Section 5 and the Appendix: portable single-channel data, no site or eye labels in the export, a

documented site-marker error in the pre-intensive file, and no normative database against which to z-score. These remain descriptive state-monitoring data, not a clinical quantitative EEG. Results are reported for the recording channel (Channel A) at each of the eleven placements; the second data channel is excluded for the reasons given in the Appendix. Recording parameters appear in Table 4, alpha amplitudes in Table 5, and Figure 4 shows the change at every placement.

Table 4. EEG Recording Parameters

Recording	Date	Duration	Sampling	Placements	Blocks (EO/EC)	Epochs retained
Pre	6/26/2026	45.0 min	~256 Hz	11	11 / 11	100%
Post	7/5/2026	38.0 min	~256 Hz	11	11 / 11	100%

Every epoch at every placement survived identical artifact rejection in both recordings. The two sessions are of equivalent, and high, signal quality, and no part of the comparison below rests on one recording being cleaner than the other.

Table 5. Alpha (8–12 Hz) Amplitude by Placement (μV), Eyes Closed

Placement	Pre	Post	Change
Fz-A1	7.92	8.97	+13%
Cz-A1	9.14	11.08	+21%
Pz-A1	12.48	10.88	−13%
C3-A1	8.71	6.83	−22%
C4-A2	7.49	6.93	−8%
C3-C4	4.16	4.87	+17%
F3-A1	7.60	6.06	−20%
F4-A2	7.00	7.54	+8%
F3-F4	4.01	4.24	+6%
O1-A1	10.06	5.79	−42%
O2-A2	9.08	5.84	−36%

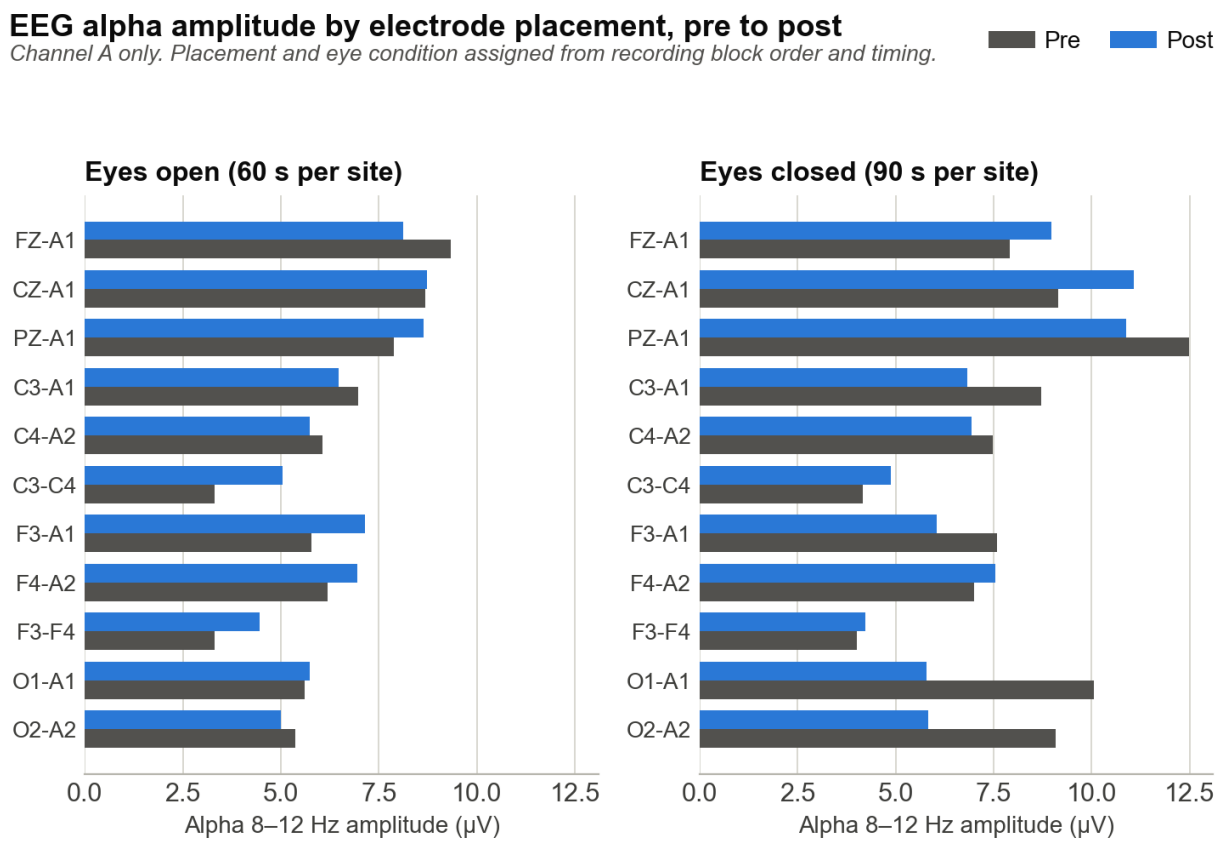

Figure 4. Alpha amplitude at each of the eleven placements, pre- to post-intensive.

Read placement by placement, the recordings show no global change in brain activity. There was no consistent whole-head shift in delta, theta or beta; the direction of change varies from placement to placement, as Figure 4 shows for alpha.

What emerges is a change in where alpha oscillations are the strongest. At the pre-intensive baseline, eyes-closed alpha was posteriorly dominant in the ordinary way: largest at Pz (12.48 μV), O1 (10.06 μV) and O2 (9.08 μV), and smaller frontally at Fz (7.92 μV). At the post-intensive recording that gradient had flattened and partly inverted. Alpha at the two occipital placements fell by roughly 40% (O1 10.06 to 5.79 μV; O2 9.08 to 5.84 μV), while central and frontal alpha rose (Cz 9.14 to 11.08 μV; Fz 7.92 to 8.97 μV), leaving Cz — not the occipital placements — as the alpha maximum. Posterior theta/alpha ratios rose in step (O1 0.41 to 0.71; O2 0.45 to 0.78).

An anterior shift of alpha away from posterior sites, with rising posterior theta/alpha, is a recognized correlate of lower arousal (Santamaria & Chiappa, 1987; Ogilvie, 2001). The context of the recording is relevant here: the post-intensive baseline was collected on the final day of an extended intensive, the same day that produced the CNSVS declines in working memory and sustained attention described in Section 7.1, and a lower-arousal recording state is consistent with that picture. Two further features of the recording context bear on how this is read: the pre-intensive baseline was recorded in the evening as a standalone session, whereas the post-intensive recording was made in the early afternoon immediately following the hour-long neurocognitive battery, and the participant had begun using sleep medication in the intervening period. Although it limits the interpretation of the EEG outcomes, these conditions were not standardized by design. The intensive was structured around what would be most clinically useful for the participant rather than around the requirements of a controlled comparison, and

decisions about scheduling, pacing, and medication followed her clinical needs as they arose. Prioritizing the best available outcome for the participant necessarily left these variables uncontrolled.

7.3 Observed Changes by the End of the Intensive

By July 5, the clinician observed changes that were behavioral and visible rather than only self-reported: steadier eye contact, brighter and more present eyes, more upright posture, more direct communication, less withdrawal, less freeze, less apology, more capacity to ask for what she needed, and more ability to remain engaged near potential triggers. P006 questioned whether the change in her eyes was real; the clinician noted it was an observable difference that had been present for several days. The most clinically meaningful shifts were in aliveness, agency, presence, and relational availability, not in whether her anxiety, sleep disruption, or trauma symptoms had resolved.

7.4 Return Travel as a Real-World Stress Test (July 5 - 6, 2026)

P006's return bus trip was long, delayed, crowded, noisy, and physically uncomfortable, which is objectively similar to the outbound trip that had begun dysregulating her before it even started. Her account of the return was markedly different. She maintained reality testing during a disorienting stop in an unfamiliar city, verifying her location and using humor rather than spiraling into panic. She asked a seatmate to move so both could have more room when her feet went numb, moved seats herself when a leak flooded her seat, and reframed her irritation at a noisy passenger as accumulated fatigue after some 27 hours of travel rather than proof the situation was intolerable. She was, in her own framing, "very done", but still flexible inside it. The trip was not easier; she was more able to process it, saying “the environment hasn’t become quieter, I’ve become quieter inside it”.

7.5 First Week Home (July 7–12, 2026)

A first-week log, kept with the support of a conversational AI tool she used for organization and reflection, documented the intensive's effects generalizing into ordinary life. She completed a multi-step, deadline-driven benefits-renewal application while exhausted, troubleshooting file-size problems by folding and rescanning a page rather than abandoning the task. She woke at a habitual 3:00 a.m. and, instead of obeying the old routine of getting up to start coffee, lay still and returned to sleep. She caught herself cleaning to be seen as productive when a family member came home, recognized the pattern, and stopped before overextending. She described the throughline herself as a developing "pause" between an automatic nervous-system response and her eventual choice: the old patterns had not disappeared, but they seemed to have, in her words, "a little less authority" than before.

7.6 Second Through Fourth Week Home (July 13–30, 2026)

Follow-up logs from July 13–30, kept with the support of a conversational AI tool she used for organization and reflection, documented the intensive’s effects as she continued to live her ordinary life. Taken together, the entries covering July 13 through 30 read less as a record of symptoms resolving than of a nervous system with more room to move. She continued to describe fatigue, digestive discomfort, emotional activation, difficult dreams, relational grief, and stretches of feeling overwhelmed. What appeared alongside them was a growing capacity to notice what was happening, pause, choose a response, adjust how much she asked of herself, and care for her body while she did it.

The clearest discrete symptom change she reported was in nightmare-related activation. Before the intensive she had described three to four months, possibly longer, of nightmares she called "bad to terrible to traumatic" at least three times a week, waking in a high-adrenaline state and unable to recall her own coping skills without external prompting. By July 19 she reported that she had not had a nightmare since the first night of the intensive. Dream content associated with prior trauma and relational grief still appeared at times; the change she described was in the degree of threat activation attached to dream material rather than in whether difficult dreams occurred, and it sits alongside a post-intensive sleep picture that otherwise worsened.

The pause she had begun describing in her first week home continued to appear under load. Waking near 1:45 a.m. on July 13, she allowed the wakefulness rather than fighting it; when the neighborhood power then went out — sleep disruption, darkness, and uncertainty, the conditions that had reliably recruited her hypervigilance — she reported the outage, found other light, conserved her phone battery, and stayed with the problem rather than with panic. The stress was real, and she noticed humor and curiosity inside it. A few days later, on July 17, after roughly ten months of feeling physically unwell, she noticed that she felt slightly better and found the sensation unfamiliar enough to be suspicious — "okay adjacent," in her phrase. She observed the suspicion with curiosity rather than treating it as a warning, and used the available energy for seated strength exercises instead of hiding under her blanket.

Several entries across July 22 and 23 describe attention widening past threat. She noticed a strand of moss, wondered whether it might "miss its family," returned it to the tree, and read the episode herself: the meaningful part was not the moss but that her nervous system had enough space to notice it — that her world was "getting bigger again." A threat-dominated nervous system narrows attention around danger and self-protection; for a client whose self-concept has been shaped by shame, addiction history, and the belief that she has harmed others, these entries appear to reflect an expansion of attentional and relational capacity rather than a sentimental aside. Alongside them ran identity-level work: she began separating two statements that shame had fused — that her family still struggles to trust her, and that she must therefore still be fundamentally untrustworthy — and named the qualities she is working toward, among them trustworthy, dependable, steady, accountable, gentle, and connected, as character rather than perfection, identity being the level at which her shame has historically operated.

The same stretch included an emotionally costly day. On July 23 she deliberately opened a line of processing about two relational figures she had been avoiding, spent close to an hour on it, and reached an intensity where she was crying too hard to keep dictating; later that day her brain was finished processing while her body would not stop, and she wanted to sleep and could not. What she made of it is the finding. She did not conclude that the work was wrong, but that an hour had been more than her system could take, and proposed trying perhaps ten minutes next time. Her recognition of dose mirrors the central learning of the intensive itself: regulation is not reached by pushing through, but by moving in and out with attention to what the body can hold.

July 24 was the clearest example of integration in the follow-up material. After the previous day's processing, she did not stay in bed ruminating. She spent about ten minutes outside walking in wet grass, photographing small mushrooms, and listening to birds, and found that it returned her to the present rather than the previous day; then she came back in, set up a zero-gravity chair by herself, and cared for her environment and her body while tired. Her own summary of the day was: "Yesterday I excavated difficult things. Today I built a place to rest." A reflection from the same day named a mechanism of the intensive directly — how being trusted to decide what her body needed differed from being told what to do — and her words, "My body

is not a problem to manage. My body is information I can listen to," describes the internal authority the intensive was working to make available to her.

On July 25 she reported significant digestive discomfort and, rather than pushing through it, kept checking in with her body: experimenting with resting positions, attending to the effects of light, noise, hydration, and movement, and resting during the day without treating rest as a failure. Her own account was that she spent more time observing her body than arguing with it. She responded differently to not feeling well.

A July 30 update added another dimension to the same pattern. P006 described creating an imaginary community of woodland creatures and noticing that afterward she let out a large sigh, smiled, and felt content and happy. She interpreted the experience herself as evidence that her brain felt “safe enough to play, create, and find safe ways to deal with my anxiety.” The clinician used the descriptive clinical term *connected activation* for this pattern. As in the earlier P001 case, this is not a formal diagnostic term, but a working clinical phrase used to distinguish activation that remains organized, relational, creative, and reality-based from activation that moves toward panic, avoidance, compulsive action, or disorganization. In P006, connected activation appeared as imaginative play, humor, meaning-making, self-soothing, intact reality testing, and a felt body response of relief and contentment. The significance was not the specific fantasy content, but the function it served: her imaginative play allowed her to celebrate small wins, soften anxiety, express appreciation and kindness, and build a creative internal world. In the context of a nervous system previously organized around hypervigilance, shame, and threat scanning, this suggested that positive activation, creativity, and playful connection were becoming more accessible.

8. Patient Perspective

P006's own words are woven through this report because they carry the meaning of the case more precisely than a rating scale can. She described Sensorial as leaving her "not even here in this room anymore, in a good way," and Guided Alignment as "the most amazing one ever." She described a new, gentler kind of internal activation after the intensive as a "light breeze in my muscles and skin," which she distinguished from anxiety. She narrated a difficult social exposure with humor, calling herself "pilot of the vibrating space chair," and framed her own progress in a first-week reflection by noticing that her old automatic responses now seemed to carry "a little less authority." She also remained honest about how hard things still were, describing herself at the end of a 27-hour bus trip as "very done." Three weeks after the intensive she described the unfamiliar experience of feeling slightly better as "okay adjacent," summarized a day of recovery after hard processing as "Yesterday I excavated difficult things. Today I built a place to rest," and arrived at a sentence that describes the change as well as any measure in this report: "My body is not a problem to manage. My body is information I can listen to." By July 30, she also described a playful imaginative world as a way her brain could “play, create, and find safe ways to deal with my anxiety,” noting that the experience ended with a sigh, a smile, and a sense of contentment. Her perspective is not that she was cured. It is that she had more room to choose.

9. Discussion

The most theoretically significant observation in this case is that the primary outcome was not calm, but flexibility. P006 did not simply relax. She became more able to move between activation and rest, to tolerate emotional emergence, to identify a clear yes or no to a protocol,

to stop something triggering, to ask for what she needed, and to remain present during a noise trigger by changing her environment so that she could remain engaged. This pattern is consistent with a nervous-system framing in which the therapeutic target is autonomic flexibility and range rather than the suppression of arousal. Across these examples, body listening functioned as the bridge between sensation and choice.

This distinction also creates a measurement problem: the clinically meaningful change was not always a reduction in activation, but an increased capacity to remain present, connected, embodied, and choiceful while activation was still present.

Several features of the case deserve emphasis. First, protocol response was highly individualized, and similar categories of content produced very different responses — ocean rhythm regulated her while river sound overwhelmed her. Second, intensity behaved as an agency and regulation variable rather than a simple low-versus-high safety measure; she sometimes needed stronger, more rhythmic input to feel organized. Third, a protocol that produced distress could still yield clinically useful information when choice was preserved, and the ability to stop was itself a treatment gain for a client whose lifelong pattern is to endure. Fourth, the environmental and relational container — quiet, kindness, reduced demand, attuned presence, permission to rest — appeared to be part of the intervention rather than its setting.

The quantitative data reinforce this reading without overstating it. Session-level state anxiety fell reliably with the protocols her body identified as supportive, and negative affect declined across sessions, while positive affect stayed roughly flat — the work reduced threat more than it manufactured good feeling. The neurocognitive battery, taken on her most exhausted day, improved specifically in reasoning, attention, and social acuity while memory and sustained-attention domains dipped, and her core PTSD, stress, and sleep burden remained high. The EEG, within real limits, sits alongside the battery it accompanied: its posterior alpha changes are consistent with a lower-arousal state on the day of recording. No single one of these data streams is decisive. Together they describe a person who did not become symptom-free but did become more flexible, more present, and more able to function under load.

The follow-up material from the first four weeks home is consistent with the same reading and adds two observations worth naming. The first is the reduction in nightmare-related activation she reported, the most discrete symptom change in the case, and one that stands against a post-intensive sleep picture that otherwise worsened. The second is her arrival at the idea of dose. After a long processing session left her activated and depleted, she identified the amount rather than the work as the problem and proposed a smaller one — the same principle the intensive had been practicing with her in the titration of protocols, now applied by her to material of her own choosing. Both appeared in an environment she experiences as scrutinizing, and without further Shiftwave access after the intensive ended.

A later update suggested an additional positive form of flexibility, described by the clinician's working term *connected activation*. This term is used descriptively, not diagnostically, to name activation that remains organized through humor, imaginative play, creativity, intact reality testing, and a felt sense of contentment rather than moving into panic, avoidance, compulsive action, or disorganization.

Clinical Consideration: Continuity of Support After the Intensive

This case also raises a consideration about continuity of support. At the close of the intensive, both clinician and participant recognized that returning home — to an environment P006 experiences as scrutinizing — would be the real test of integration, and no local Shiftwave access had yet been arranged near her home. Based on the observations in this case, the

treating clinician's current view is that continued access to Shiftwave following an intensive may help a highly sensitive nervous system keep practicing regulation after the intensively supported window has ended. This should be understood as a clinical hypothesis emerging from a single case rather than an established protocol, and the frequency, duration, and continuity of post-intensive use needed to maintain and generalize gains is a question for future study.

Data Notes and Limitations

This is a single-case observational report without a control condition, standardized blinding, or a fixed protocol, and it embeds the intervention within an established eight-year therapeutic relationship whose effects cannot be separated from the technology. Several specific limitations should be stated plainly. The affect measure is a 20-item Positive and Negative Affect Schedule, with each subscale scored across a 10 to 50 range; positive and negative affect are reported here as directional change rather than against population norms. One session lacks a paired pre/post anxiety score and five lack paired affect scores, because pre-session forms were not completed in the opening sessions of the intensive or were ambiguously marked. In one session that followed directly from the preceding protocol, the preceding session's post-session anxiety score is carried forward as its pre-session value. Post-session anxiety scores clustered near the floor of the STAI-S range, which limits the scale's ability to distinguish between protocols at the end of a session, and the largest reductions followed the highest pre-session scores, a pattern to which regression toward the mean is expected to contribute. Pre-session anxiety did not decline across the week, so the session-level changes are best read as state shifts within sessions rather than as a cumulative change in baseline anxiety. The CNSVS post-test was administered on the final, most fatigued day of the intensive, which plausibly depressed effortful domains such as working memory and sustained attention. The battery also repeats a fixed set of items at both administrations, so improvement on repeated tasks — most visibly Reasoning — may reflect familiarity with the items rather than cognitive change. The participant began using sleep medication during the intensive window; this was not a planned component of the intervention and may have contributed to the post-intensive sleep scores, the neurocognitive post-test, and the post-intensive EEG. The EEG is descriptive single-channel monitoring, not a clinical quantitative EEG: placement and eye condition are read from the recording's block structure rather than from file labels; the second data channel is not usable for pre/post comparison; each placement contributes only 60 seconds eyes-open and 90 seconds eyes-closed; no normative comparison is possible; and with two recordings no statistical inference can be drawn, so all EEG statements here are descriptive. The post-intensive EEG was recorded on the same final day as the CNSVS post-test, and the fatigue of that day may be reflected in both. The follow-up observations from the second through fourth weeks home are P006's own reports, kept with the support of a conversational AI tool she uses for organization and reflection, and no standardized measures were administered during that window; they are recorded here as her account of daily life rather than as measured change. A further limitation is that the available standardized measures captured anxiety, affect, symptoms, cognition, and sleep more directly than they captured the state-dependent regulatory capacity emphasized in the clinical observations — for example, the ability to remain embodied, connected, choiceful, and able to take the next appropriate action while still activated. Finally, the observation window is short, and durability of the observed changes is unknown.

Future Directions

Future work suggested by this case includes: (1) systematic pre- and post-assessment with standardized measures administered at a rested baseline rather than at the end of an intensive; (2) longitudinal follow-up at three months, six months, and one year to evaluate persistence of the observed flexibility gains; (3) investigation of which protocol characteristics — rhythm,

predictability, guided versus unguided content, intensity — are associated with regulation in highly sensitive clients; (4) evaluation of the frequency, duration, and continuity of post-intensive Shiftwave use needed to support maintenance and generalization; and (5) improved EEG acquisition — site and eyes-open/closed markers written into the file itself rather than reconstructed afterwards, verified electrode contact on every channel before recording, a rested post-intensive recording separated from the fatigue of the final day, and where possible simultaneous multi-channel recording in place of eleven sequential single-electrode placements — so that pre/post neural comparison can move beyond descriptive monitoring. A sixth direction follows from the follow-up reports in this case: brief repeated measures of sleep, distress, and daily function during the weeks immediately after an intensive, so that the integration period is documented rather than only narrated.

A seventh direction is measurement review and possible development. The present case suggests that existing measures of anxiety and affect are useful but may not fully capture the clinical construct most visible in trauma-informed Shiftwave work: state-dependent regulatory capacity. In this context, the relevant question is not only whether anxiety decreases or affect improves, but whether the client gains more capacity to remain present, connected, embodied, choiceful, and safe enough to take the next appropriate action even while shame, fear, dissociation, fatigue, attachment activation, or bodily discomfort remain present. Future studies should evaluate whether existing instruments measuring dissociation, interoception, emotion regulation, shame, self-compassion, behavioral functioning, suicidality, urge intensity, and trauma symptoms can adequately capture this construct. If not, a brief adjunctive clinical tracker may be needed to assess presence in the body, dissociation, shame activation, felt choice, connection to safe others, urge intensity, ability to take the next right action, and the time required for protocol effects to settle into ordinary life. Such a tracker would not replace validated measures, but could help document clinically meaningful shifts that may precede global symptom reduction.

In summary, this case suggests that a structured Shiftwave intensive, when integrated within a trauma-informed, relational, carefully paced process with protected integration time, may support increased nervous-system flexibility in a highly sensitive adult with complex trauma — expressed as agency, presence, body listening, functional capacity, and adaptability under stress, rather than as the elimination of symptoms.

10. Ethical Considerations and Informed Consent

This report describes de-identified clinical material from a consenting adult participant. The participant provided written informed consent for the publication of this de-identified case report. All directly identifying information has been removed, the participant is referred to only by an assigned identifier, and identifiers embedded in source files were removed before those files were referenced. The intensive was conducted as clinical care within an established therapeutic relationship. This report is prepared in accordance with the CARE Guidelines for case report publication.

Competing Interests: Shiftwave is a proprietary technology developed and manufactured by Shiftwave, Inc. Personnel employed by Shiftwave, Inc. contributed to the EEG signal processing and to the preparation of this manuscript.

Author Contributions: The treating clinician conducted the intensive, made all clinical decisions, collected the clinical and self-report data, and drafted and approved the clinical content of this

report. EEG signal processing and quantitative analysis were performed by Shiftwave, Inc. personnel.

Use of AI-Assisted Technology: The participant's follow-up logs covering the second through fourth weeks home were composed with the assistance of a conversational AI tool she uses for organization and reflection, as described in Section 7.4. Generative AI was also used during data analysis, and case report preparation.

Data Availability: Deidentified data is available upon request.

11. Appendix: EEG Data Sources and Analysis Methods

11.1 Source Files

Two EEGer raw-sample exports were analyzed, one bracketing each end of the intensive: the pre-intensive baseline recorded June 26, 2026, and the post-intensive recording of July 5, 2026. Each file contains a Time column, two EEG channels (ChanA, ChanB) in microvolts sampled at approximately 256.4 Hz, the recording software's live band and threshold columns, and a marker column. Identifiers embedded in the original filenames were removed before analysis and are not reproduced here.

11.2 Recording Structure

The baseline protocol steps a single recording electrode through eleven placements in a fixed order, capturing 60 seconds eyes-open followed by 90 seconds eyes-closed at each:

#	Placement	#	Placement	#	Placement
1	Fz-A1	5	C4-A2	9	F3-F4
2	Cz-A1	6	C3-C4	10	O1-A1
3	Pz-A1	7	F3-A1	11	O2-A2
4	C3-A1	8	F4-A2		

Each recording contains 22 blocks corresponding to these eleven placements in protocol order, the eyes-open block preceding the eyes-closed block at each. Placement and eye condition were taken from that order and from block timing, rather than from the file's internal site labels, which do not track the electrode between placements. Each block was trimmed to its protocol duration of 60 or 90 seconds, so that a block running long — as the last one in the pre-intensive file does — cannot carry into a condition.

Only the recording blocks were analyzed. The pauses between placements, during which the electrode is being repositioned, were excluded; they account for the difference in total file duration between the two sessions (45.0 vs 38.0 min).

11.3 Preprocessing and Analysis

All values were recomputed from the raw channel signal; the software's live band columns were not used. For each recording, and separately for each of the 22 placement × eye-condition blocks on Channel A: (1) the leading all-zero priming sample was dropped; (2) the block was band-pass filtered from 1 to 40 Hz with a fourth-order zero-phase Butterworth filter and a 60 Hz notch; (3) the block was divided into one-second non-overlapping epochs; (4) epochs were rejected if the raw signal reached the device rails (absolute value at or above 245 µV, with

hardware saturation at ±250 µV) or exceeded 400 µV peak-to-peak, to remove movement and blink artifact; (5) power spectral density was estimated by Welch's method (2-second Hann window, 50% overlap) averaged over surviving epochs; and (6) band power was integrated over each band, with band amplitude reported as the square root of band power in microvolts. Bands were delta 1–4, theta 4–8, alpha 8–12, low beta 12–18, and high beta 22–36 Hz, matching the earlier P001 report. Derived ratios (theta/alpha, delta/alpha, alpha/high-beta, theta/high-beta) were computed from the band amplitudes. Because each block contributes only 60 s (eyes-open) or 90 s (eyes-closed) of data, per-placement values rest on far less signal than a whole-session average would, and small differences should not be over-read. The analysis was performed in Python (NumPy, SciPy, pandas); the script is retained with the case materials.

11.4 Epoch Retention

Within the recording blocks, artifact rejection removed nothing: all epochs were retained on Channel A at all eleven placements in both the pre- and post-intensive recordings. The two sessions are of equivalent signal quality, and no part of the pre/post comparison rests on one recording being cleaner than the other.

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Prepared in accordance with the CARE Guidelines for case report publication. De-identified clinical material.