

## Research Article

# Sensorimotor Psychotherapy Group Therapy in the Treatment of Complex PTSD

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- Body therapy

## Abstract

In this article we evaluate a new modality of treatment for a very severe and chronically ill population at a National Trauma Centre. We describe the service with its current treatment options and the type of patients selected for this new intervention. PTSD is presented as a biphasic syndrome, necessitating treatment approaches that address both physiological arousal and alexithymia and numbing. Each Sensorimotor Psychotherapy session addresses a different set of symptoms sequenced in order of importance from a trauma-treatment perspective, including: autonomic arousal, implicit memory, basic techniques for regulating arousal, directing focused attention, boundaries and skills practice. We describe methodology issues, aims of the treatment and statistical results as well as qualitative aspects of the outcome. Statistically significant changes in pre-treatment scores on measures of PTSD symptoms, depression, overall health, and work and social functioning were observed. This study has important implications for stabilization phase one treatment in the management of individuals with complex trauma presentations.

## ABBREVIATIONS

PTSD: Post Traumatic Stress Disorder; CPTSD: Complex PTSD; EMDR: Eye Movement Desensitization and Reprocessing; CBT: Cognitive Behavioral Therapy; DDNOS: Dissociative Disorder Not Otherwise Specified; DID: Dissociative Identity Disorder; TSS: Traumatic Stress Service; MDT: Multidisciplinary Team Meeting

## INTRODUCTION

This paper evaluates the use of a new modality of treatment – Sensorimotor Psychotherapy Group Therapy – for phase one stabilization treatment of complex PTSD (CPTSD) as defined by the ICD-11 [1] in a National Trauma Centre.

## Background Information

The Traumatic Stress Service (TSS) is an outpatient tertiary referral centre which receives patients from the whole of the UK. It is one of the few remaining NHS trauma services in the UK at a tertiary level where treatment of complex trauma is addressed.

The treatments offered in this service range from the National Institute for Health and Care Excellence [2] recommendations for PTSD, Trauma focus Cognitive Behavioral Therapy (t-CBT) [3] and Eye Movement Desensitization Reprocessing (EMDR) [4] to a range of innovative treatments within a framework of

attachment informed therapies. New forms of treatment are used to address the needs of an increasingly complex range of clinical presentations, including severe dissociative disorders (DDNOS and DID), personality disorders (mainly borderline personality disorder), and CPTSD as a result of exposure to extreme situations such as torture, concentration camps, domestic violence, organized violence, and childhood sexual, emotional and/or physical abuse.

## Description of PTSD and CPTSD

Hallmarksymptoms of PTSD include sympathetically mediated hyperarousal symptoms and intrusive re-experiencing of the event, accompanied by hypervigilance, anxiety, intrusive images and dysregulated emotions. Diagnostic criteria for PTSD require that these symptoms are accompanied by parasympathetically-mediated symptoms of numbing, avoidance, loss of interest and pleasure, and disconnection from loved ones. Additional symptoms associated with hypoarousal might manifest as dulling of inner body sensation; alexithymia; a loss of somatic capacities, such as impaired pain responses and intermittent motor inhibitions [5-8], or a slowing of musculoskeletal response and diminished muscular tone [9].

CPTSD as defined by ICD-11 [1] presents with elevated PTSD symptoms as well as affective dysregulation leading to

self-destructive behavior; negative self-concept with pervasive feelings of shame, guilt or failure; and interpersonal problems [10].

Post-traumatic stress disorders can be conceptualized as regulatory disorders of experiencing “too little” (hypoarousal) as well as “too much” (hyperarousal), the biphasic pattern of dysregulated arousal described by vander Kolk et al., [11] and Post et al. [12]. People with PTSD or CPTSD may alternate between emotional and bodily numbing and avoidance of cues reminiscent of the trauma and intrusive reliving of the trauma [13-17]. In each condition, arousal exceeds the “window of tolerance” (Figure 1), a regulated zone characterized by affect tolerance and the ability to effectively process information [18].

### TSS Patient Population

The majority of patients referred to the TSS have already undergone trauma focused therapy at a primary (Immediate Access to Psychotherapy Treatments - IAPT) and/or secondary level (Community mental Health Teams – CMHTs- or local therapy services), with little or no improvement. They present with complex needs and are often chronically unwell, have lost their jobs, are socially isolated, and live a very restrictive lifestyle.

These patients suffer from CPTSD, DDNOS, DID, and/or personality disorders. In some cases, the individual may present with severe head injury sequelae or physical disabilities as a result of torture or assault. A large number of patients present with co-morbid disorders such as depressive illness, and in some cases with psychotic disorders amongst others.

In the clinical setting, these patients present challenges to clinicians and well established therapies that are not as effective with CPTSD as in the treatment of PTSD related to a single traumatic event. Although the NICE [2] guidelines delineate modalities of treatment for simple PTSD, no clear guidelines have been established for CPTSD.

### Sensorimotor Psychotherapy

Research has consistently demonstrated a connection between

affect dysregulation and experiences of early childhood neglect, trauma and attachment failure [11, 19, 20]. Without adequate regulation of distress states in childhood, the nervous system and affect-regulating brain structures fail to develop optimally [21]. Affect dysregulation is an underlying component of CPTSD, mood and anxiety disorders, and borderline personality disorder as well as a contributor to addictive and suicidal behavior.

Methods to increase self-regulation are crucial to the effectiveness of any treatment for these issues, thus the phase-oriented treatment model has been the standard of care in the trauma treatment field for almost a century [22-24].

In phase-oriented treatment, the task of processing and resolution of traumatic memory is preceded by stabilization phase treatment focused on regulation of autonomic arousal, increasing affect tolerance, and reducing symptoms. The stabilization requirement is particularly critical in the treatment of CPTSD where the co-morbid and interacting symptoms of emotion regulation, mood disorder, and interpersonal deficits complicate straightforward approaches appropriate for simple PTSD. However, traditional psychotherapy models generally lack techniques that directly treat the autonomic dysregulation perpetuating these psychological symptoms. Sensorimotor Psychotherapy [25-27], designed to specifically address somatic and autonomic symptoms as well as cognitive and emotional ones, is a mindfulness-based body-oriented therapy which incorporates approaches from psychodynamic psychotherapy, gestalt therapy, cognitive-behavioural and mindfulness-based cognitive treatments as well as the Hakomi method of body psychotherapy [27]. Its theoretical principles stem from neuroscience research findings on the effects of traumatic experience on the brain and body, and its interventions emphasize attention to modulation of autonomic arousal and re-instatement of adaptive responses [11, 23].

The Sensorimotor Psychotherapy twelve-week group protocol (Tables 1, 3), designed as a phase one stabilization treatment, incorporates psycho-education about trauma, mindfulness and concentration practice, development of somatic

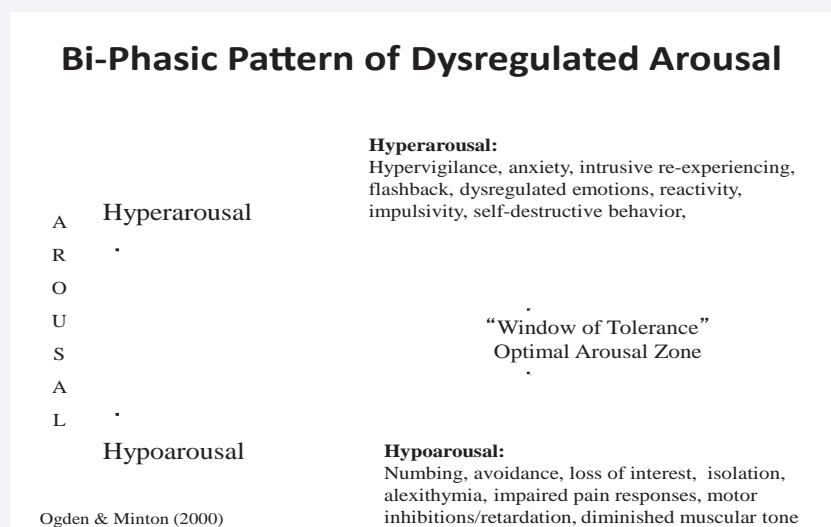


Figure 1 Biphasic Pattern of Dysregulated Arousal.

**Table 1:** Clinical rating scales before and after Sensorimotor Psychotherapy Group Therapy.

| Scale   | Cases with complete pairs of data (n) | Pre-Median (interquartile range) | Post-Median (interquartile range) | Difference |       | Wilcoxon Signed Ranks Test Significance |
|---------|---------------------------------------|----------------------------------|-----------------------------------|------------|-------|---|
|         |                                       |                                  |                                   | N          | %     |   |
| IES-R   | 16                                    | 56.0<br>(50.3-65.0)              | 45.5<br>(36.0-50.3)               | -10.5      | -18.8 | 0.047*                                  |
| HONOS   | 13                                    | 10.0<br>(8.0-15.8)               | 7.0<br>(3.0-8.0)                  | -3.0       | -30.0 | 0.007*                                  |
| CORE-OM | 11                                    | 2.5<br>(2.2-2.8)                 | 2.2<br>(1.8-2.7)                  | -0.3       | -11.6 | 0.083                                   |
| BDI-II  | 16                                    | 36.5<br>(28.8-41.0)              | 27.0<br>(20.5-29.5)               | -9.5       | -26.0 | 0.002*                                  |
| DES     | 14                                    | 23.0<br>(16.0-28.0)              | 17.5<br>(12.0-21.8)               | -5.5       | -23.9 | 0.195                                   |
| W&SAS   | 16                                    | 25.0<br>(22.8-31.3)              | 21.0<br>(19.0-26.5)               | -4.0       | -16.0 | 0.011*                                  |
| TAS-20  | 6                                     | 99.0<br>(88.5-115.5)             | 104.0<br>(90.5-110.3)             | +5.0       | +5.1  | 0.752                                   |
| DERS    | 8                                     | 115.0<br>(108-117.5)             | 95.5<br>(88.3-116.3)              | -19.5      | -17.0 | 0.401                                   |

\* Not all participants completed all scales pre- and post- intervention

\*\* Significant (p<0.05): BDI-II (Z = -3.03, p = 0.002), IES-R (Z = -1.99, p = 0.047), HoNOS (Z = -2.69, p = 0.007) and W&SAS (Z -2.5, p=0.01).

**Table 2:** Qualitative Data.

| Feedback from patients at the end of the group therapy to the question: 'What did you find more helpful?'   |
|---|
| 1. "The whole course, I really embraced it especially the activities; they enable me to stay in the window of tolerance, and also allow me to know when I left it so I could bring myself back"   |
| 2. "I have learned so much...but in terms of new skills and techniques to practice when triggered and in terms of learning about myself. About realizing my behaviors were indicative of how my body and mind was in a traumatized state. More important of all, about believing that there was something I myself could do in order to control my emotions, my own body even. I could have control over myself. Mindful techniques, grounding, centering and alignment and barriers" |
| 3. "The information given during the sessions was very interesting and made sense when the therapists broke down the information and gave good examples. I felt very included in the group, the therapists were extremely engaging"   |
| 4. "More helpful: breathing exercises to calm down and reduce anger. Grounding to be in the present and to cut off less from reality. Orienting to reduce flashbacks and tracking and concentrating on what is going on and having more of an understanding".   |
| 5. "Be curious don't judge'- when I am having the thoughts day to day about other people evaluation of me, I use this phrase; it's really helpful. Window of tolerance has helped me understand why I am running on 'overdrive' or totally cutting off and "getting alien". Grounding. Directed mindfulness. Alignment- I carry a lot in my back, shoulders. Boundaries"  |
| 6. "Grounding, recognizing implicit memories, breathing, boundaries. Relation resources: reaching out, letting go".   |
| 7. "I have found that grounding my feet to the ground and somatic resources most helpful. Also practicing new experiments. I haven't yet mastered the boundaries with people but been trying to practice saying 'no'"   |
| 8. "Window of tolerance, identifying hyper/hypoarousal. Grounding. Mindfulness. Alignment. Boundaries. To know I have a choice"   |

resources for regulating autonomic arousal, and skills rehearsal within a group therapy context. It was designed to introduce the skills in a sequential and titrated format, ensuring that clients do not become dysregulated in the process of stabilization, thus unable to integrate new learning, and that each skill builds upon the acquisition of the previous one. Each session focuses on a particular trauma treatment-related issue which is introduced via a psycho-educational presentation by group leader(s), followed by the introduction of one or more related skills, exercises designed to support acquisition of these skills practice carried out in two-person dyads, and a group discussion to integrate the new learning. Each group adheres to the same format, and only the informational content varies from group to group.

The topics covered (in order of importance from a trauma-treatment perspective) include: autonomic arousal, implicit

memory, basic techniques for regulating arousal, survival resources, embodying resources or strengths, directing focused attention, somatic resources (centering, containment, movement), boundaries, skills practice via experiments, repetition and practice of new abilities, and focusing on positive gains versus negative losses.

The protocol includes a standardized script for group leaders to ensure reliability across multiple groups, studies and sites. In addition the group therapist(s) had completed 2-5 years of training in Sensorimotor Psychotherapy. Group leaders were instructed to follow the protocol script and, rather than exclude participants who found particular skills difficult, to use individual or group dysregulation as an opportunity to ask members to apply the skills so far acquired. In that way, leaders ensured full participation across all twelve sessions by all group members.

| Table 3: Summary of the group sessions.  |
|--|
| <b>Sensorimotor Psychotherapy 12- Session Somatic Resources Group Protocol</b>   |
| <b>I. Introduction to Sensorimotor Psychotherapy</b>   |
| 1. Housekeeping, introductions<br>2. Group norms<br>3. Psychoeducation:<br>a. Autonomic Arousal and the Window of Tolerance<br>b. Implicit Memory  |
| <b>II. First steps toward regulating arousal</b>   |
| 1. Grounding<br>2. Alignment   |
| <b>III. Resources</b>  |
| 1. Survival vs. creative resources<br>2. Existing and missing resources<br>3. Identifying needed resources<br>4. Embodying resources   |
| <b>IV. Orienting</b>   |
| 1. Learning to direct attention toward and away from internal stimuli<br>2. Directing attention to external environment: how can you tell where you are?<br>3. Using turning movements of the head and neck<br>4. Oscillation techniques |
| <b>V. Directed Mindfulness</b>   |
| 1. Learning to direct attention to internal states<br>2. Differentiating thoughts, feelings, body experience<br>3. Tracking inner experience and studying what happens<br>4. Increasing awareness of positive sensations/emotions        |
| <b>VI. Capitalizing on the resources of the body</b>   |
| 1. Centering<br>2. Containment<br>3. Movement  |
| <b>VII. Boundaries</b>   |
| 1. Psychoeducation on trauma and boundaries<br>2. Creating boundaries out of objects or string<br>3. Studying boundary styles<br>4. Maintaining the sense of boundary in the face of intrusions  |
| <b>VIII. Mindful experiments</b>   |
| 1. Psychoeducation on procedural learning<br>2. Running mindful experiments to challenge procedural learning<br>3. Learning to observe the results without judgment<br>4. Experiments with shifting sensations in the body               |
| <b>IX. Boundaries, Part II</b>   |
| 1. Experimenting with boundaries as a resource<br>2. Energetic boundaries<br>3. "Stop" movement  |
| <b>X. Somatic Resources for Interpersonal Relationships</b>  |
| 1. Reaching out<br>2. Letting go<br>3. Holding on or grasping  |
| <b>XI. Practicing New Actions and Reactions</b>  |
| 1. Integrating the skills learned in the group<br>2. Practice using objects to represent challenging people/situations<br>3. Practicing new skills until they become procedurally learned  |
| <b>XII. Integration and Termination</b>  |
| 1. Endings<br>2. Experiencing endings as opportunities instead of losses<br>3. What can each person take away from the group?  |

## MATERIALS AND METHODS

### Methodology

**Population:** Twenty Patients Were Included in This Study. All Patients Fulfilled Criteria For PTSD As Measured By The SCID-Version 2.0 (For DSM-IV) PTSD [28]. Seventeen Patients Were Referred After They Failed To Respond To NICE [2] Guidelines Treatments. Three Patients Had Not Been Offered Any Trauma Focus Therapy Prior To Referral To The TSS, As The Complexity Of Their Needs Was Considered To Be Too Severe To Be Suitable For These Treatments. Two Out Of the Three Cases Presented with Severe Head Injury Sequelae, Including Hemiparesis, memory and language difficulties, and severe headaches. In one case the patient had a chronic delusional disorder (with no acute psychotic symptoms).

**Inclusion criteria:** The individuals had to fulfil criteria for PTSD (DSM-IV); they had to be 18 or older and be able to speak English to a sufficient level to be able to participate without an interpreter. They had not responded to, or were considered not suitable for, NICE guidelines treatments due to the severity of their symptoms.

**Exclusion criteria:** Acute psychotic illness, suicidal or severe ongoing self-harm, alcohol addiction, drug addiction, and moderate to severe learning disability.

**Assessments:** Patients were initially assessed by TSS clinicians and afterwards presented and discussed in a Multidisciplinary Team Meeting (MDT). The decision to refer to the Sensorimotor Group was mainly based on patients presenting with severe dissociative symptoms, when clinicians felt that the subject was not ready for individual therapy, or when they seemed unable to engage in individual therapy (for instance, patients being too aroused whilst in therapy or unable to tolerate the proximity of the therapist).

### Study Design/Procedure

The assessment consisted of a comprehensive semi-structured psychiatric/psychotherapy interview and a series of questionnaires were administered including: SCID-DSM-IV (PTSD) (Structured Clinical Interview for the DSM-IV Axis I Disorders; SCID PTSD Module) [28], IES-R (Impact of Events Scale, Revised) [29], HoNOS (Health of the Nation Outcome Scale) [30], CORE-OM (Clinical Outcomes Routine Evaluation) [31- 32], BDI-II (Beck Depression Inventory, II) [33], DES (Dissociative Experiencing Scale) [34], TAS-20 (Toronto Alexithymia Scale) [35], W&SAS (Work and Social Adjustment Scale) [36] and DERS (Difficulties in Emotion Regulation Scale) [37].

The questionnaires were administered in two instances: prior to starting and at the end of the Sensorimotor Group Psychotherapy. The clinician who did the initial assessment gave the questionnaires. In four cases, the clinician doing the assessment was also running the group therapy.

### Medication status

Thirteen patients were on psychotropic medication for a minimum of six months prior to participating in the study and for the extent of the group therapy, medication was not altered as

there was no indication to do so. Of the thirteen patients, twelve were on antidepressants, two on antiepileptic medication, four on antipsychotics and one on regular pain killers.

**Group rules:** During the group sessions, members of the group were not allowed to discuss their own traumatic events to reduce symptom contagion effects. Alcohol or drugs were forbidden, and if patients smelt of alcohol or looked intoxicated, they were invited to leave the session. This happened only on one occasion (this patient was able to participate in the group except for one session). Contact outside of the group was discouraged.

## RESULTS AND DISCUSSION

### Statistical Analysis

Descriptive statistics revealed that sample data was non-parametric, with the exception of W&SAS. Normal distribution of the population was therefore not assumed and Wilcoxon Signed Ranks Test was used throughout.

For eight out of nine of the clinical measures used before and after treatment, the median scores decreased post treatment. Only the TAS-20 median score increased following intervention, but this increase was not significant to the wider population.

Of the changes in scores following intervention, four were significant to the wider population: BDI-II ( $Z = -3.03$ ,  $p = 0.002$ ), IES-R ( $Z = -1.99$ ,  $p = 0.047$ ), HoNOS ( $Z = -2.69$ ,  $p = 0.007$ ) and W&SAS ( $Z = -2.5$ ,  $p = 0.01$ ). Subjects demonstrated statistically significant decreases in depressive symptoms (BDI-II), PTSD symptoms (IES-R), overall health and social/vocational adjustment (W&SAS).

Low data completion rates for DERS and TAS-20 (<10 pairs) are likely to have impaired significance scores.

Post-hoc testing was not conducted as all scores were selected a-priori (all the scores are included in Table 1\*) and the items were interdependent, indicated by high internal consistency of changes (Cronbach's  $\alpha = 0.81$ ).

### Outcomes

**Efficacy:** According to our clinical ratings, there were statistically significant changes in four of the rating scales, including IES-R ( $p < 0.047$ ), HoNOS ( $p < 0.007$ ), BDI-II ( $p < 0.002$ ) and W&SAS ( $p < 0.011$ ).

In clinical terms the changes in rating scales were as follow: the BDI-II scores changed from the severe range of the scale (pre-treatment: 36.5) to the moderate range of the scale (post-treatment 27) (BDI-II, severe range 31+); IES-R changed within the severe range (pre-treatment, 56 and post-treatment 45.5) (IES-R severe range 44+); W&SAS changes were within moderate to severe range of the scale (pre-treatment 25 to post-treatment 21) (W&SAS moderate to severe 20+).

HoNOS changes were highly significant from pre-treatment levels of 10 to post-treatment of 7. Although the majority of the patients were rated within the severe range of "non-psychotic chaotic and challenging disorders", we also included three patients with more disabling symptoms such as chronic delusional disorder (one) and neurological disabilities (three).

Our ratings were decreased to a less severe level, care cluster 7 of "enduring non-psychotic disorders; high disability."

Seventeen patients included in the groups progressed to phase two trauma treatments except for one patient that was discharged back to CMHT due to needing to address alcohol issues as well as psychotic symptoms and two patients that were discharged without further therapy (with the option to re-join) because their rating had gone down to a subclinical level after participating in the group. Phase two trauma treatment consisted mainly of individual therapy using different models including T-CBT; EMDR; Sensorimotor Individual Psychotherapy, and Lifespan Integration [38] among others. Of the seventeen patients, four were accepted for a nine month group therapy for child sexual abuse survivors (CSA group).

### Alternative explanations for the improvement observed in the study

The results obtained may have been distorted by patients trying to please the therapists, though this effect should have been decreased as most of the ratings were done by a different clinician from the ones offering the treatment. As suggested by Elliot [39], the validity of interviews is higher when conducted by a separate researcher who did not serve as the therapist for the study. Patients may have improved because of common therapeutic factors found in other types of group therapy, such as experiencing support and being cared for. All the patients but three had already undergone therapy with little improvement, often for long periods of time. None of the participants had previous experience of participating in a group where emphasis was given to affect regulation, mindfulness; body oriented resources as well as psychoeducation in relation to dissociative symptoms and trauma.

## LIMITATIONS OF THE STUDY AND ADVERSE EFFECTS

### Treatment dropout

Of the initial number of patients, twenty seven, and three dropped out after the first session. One patient was excluded from the group after the first session, as the behavior exhibited by the individual proved too difficult to manage within a group context (e.g. patient howling and crawling under a table). Three patients were not included in the analysis, as their attendance was less than 50% of the sessions. In addition to reducing the sample size this may represent a slight skew, in that the patient excluded may not have evinced a typical outcome.

### Medications

All participants continued their medication treatment as usual for the duration of this study. Contributory or confounding effects of different medication regimes upon the efficacy of therapy were not explored due to the low sample size.

### Blinding

There was potential bias only in four of the patients participating in the study who were also assessed by the clinician running the group therapy. In those cases, the clinician did not have access to initial ratings until the final ratings were obtained.

## Sample size

Some of the patients did not complete their ratings, which had an impact on the statistical significance. Twenty participants completed some or all of the scales both pre- and post-intervention, and all complete pairs of data were included in analysis. A larger sample size may also have produced more significant results. Nevertheless, four of the eight measures showed a significant outcome.

## CONCLUSION

This study shows statistically significant results in a chronic and severely ill population; most of the patients had childhood as well as adulthood traumas and presented with CPTSD as well as personality difficulties, severe dissociative symptoms and other co-morbid disorders.

The main treatment effect was shown in 4 measures: an overall improvement (HoNOS), a reduction in PTSD scores (IES-R), a reduction in depression scores (BDI-II) and improvement in daily life activities and close relationships as measured by W&SAS. There was a reduction in scores in other rating scales, including DES, CORE-OM, DERS; these did not reach statistical significance.

As a result of the clinical improvement, all patients progressed to phase two trauma treatments except for one patient that was discharged back to CMHT for further treatment and two patients that felt well enough to be discharged.

In qualitative terms (Table 2), individuals found especially useful: the concept of the "window of tolerance," learning to regulate their nervous system activation; and addressing trauma related somatic symptoms by using somatic resources without feeling overwhelmed. Members appreciated that the therapists demonstrated the new skills and encouraged their practice while in the sessions. In addition, the non-judgmental approach to their difficulties encouraged curiosity and mindfulness.

From the therapist's point of view, important goals in this group were learning to regulate autonomic arousal, as well as the opportunity to imitate others' willingness to learn new responses. Triggering events in the sessions were reframed as opportunities for learning and patients were encouraged to use the newly learned strategies to regulate when triggered. Inclusiveness (encouraging participation at the level the individual could manage) with clear boundaries between past and present was paramount.

Units specializing in the treatment of patients with CPTSD, such as the TSS, have found that recognized treatments for PTSD (single incident) do not address the needs of this population. With an increasing number of patients being diagnosed as suffering from CPTSD, the challenges ahead are to find treatments that can benefit these individuals. In this study, Sensorimotor Group Therapy (12 sessions) proved to be beneficial for phase one stabilization trauma treatment.

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