



Application of W.A.R.A. in an Adult with Functional Neurological Disorder: A Single-Session Exploratory Case Report

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Abstract

Functional Neurological Disorder (FND) is a disorder of motor, sensory, and cognitive functioning in which the brain generates genuine symptoms without a structurally identifiable lesion. Arousal, attention, and prediction processes are increasingly understood as central to symptom generation and maintenance. This case report examines the application of the W.A.R.A. (Wiring Affect with ReAttach) method, a short ReAttach-derived exercise targeting the immediate dominance of negative affect and sensory over-responsivity, during an introductory session with an adult participant diagnosed with FND. The session was conducted remotely in West Haven, Utah, and integrated fast rhythmic tapping, parasympathetic press, psychoeducation on prediction errors, shelf visualization, and an introductory-level Forgive & Forget Hood. The participant reported feeling lighter, calmer, and experienced a sense of reduced cognitive load; no seizure activity, neurological worsening, or adverse sensory reactions occurred. Findings are discussed in relation to transdiagnostic mechanisms—arousal regulation, sensory integration, co-regulation, and cognitive reframing—and to the broader ReAttach framework. This report documents the session process, key observations, and the potential relevance of W.A.R.A. in addressing transdiagnostic processes within the participant's specific context.

Keywords: Functional Neurological Disorder, Functional Movement Disorder, ReAttach, self-regulation, co-regulation, hypervigilance, mixed-methods, case series, W.A.R.A. (Wiring Affect with ReAttach)

Introduction

Functional Neurological Disorder (FND) is a common and disabling condition characterized by genuine motor, sensory, and cognitive symptoms that arise from altered nervous-system functioning rather than from a structurally identifiable disease process. Contemporary models of FND emphasize the role of predictive processing: the brain is understood to generate symptoms when prior expectations and incoming sensory data are mismatched (prediction errors), particularly under conditions of heightened arousal, attentional self-monitoring, and cognitive load (Nicholson et al., 2020a). Stress, sensory overload, and cognitive fatigue are repeatedly reported as triggers for symptom escalation, and excessive self-focused attention on the affected body part is thought to reinforce maladaptive motor and sensory patterns (Nielsen et al., 2015).

ReAttach is a transdiagnostic, multimodal intervention developed by Dr. Paula

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Zeestraten-Bartholomeus in 2010. The intervention first establishes a regulated relational and multisensory learning condition, then supports sensory integration, associative processing, social cognition, perspective-taking, and adaptive identification through Cognitive Bias Modification (Zeestraten-Bartholomeus et al., 2026). Within this architecture, Wiring Affect with ReAttach (W.A.R.A.) is a focused, short exercise intended to reduce the immediate dominance of negative affect or sensory over-responsivity. W.A.R.A. has produced a greater immediate reduction in negative affect than distraction in a randomized crossover pilot of 101 adults (Weerkamp-Bartholomeus et al., 2020a). Remote delivery has also been associated with reduced negative affect, supporting remote W.A.R.A. as a psychological first-aid or self regulation tool (Weerkamp-Bartholomeus et al., 2021). Another component, the Forgive and Forget Hood (FFH), supports the repositioning of persistent mental and sensory material and has been explored as an aid for rumination (Zeestraten-Bartholomeus, Lee, et al., 2025) and obsessive-

compulsive symptoms (Zeestraten-Bartholomeus, Krzysztofik, et al., 2025). This case report examines an introductory W.A.R.A. session (theorized as 'From Dysregulation to Co-Regulation: A Mixed-Methods Exploratory Case Series of Remote ReAttach for Functional Neurological Disorder') delivered remotely to a single adult

participant (A.) with FND. The session was conducted in West Haven, Utah, on 23 July 2026, by LeElla Call (ReAttach Coach and FND Life Coach). The purpose of the report is to document the session process, key observations, and participant responses following the application of the W.A.R.A. method, identifying areas for further exploration.

Participant Background

The participant, A., is an adult with Functional Neurological Disorder who experiences a wide range of motor, sensory, and cognitive symptoms. These include functional seizures, trouble walking (gait disturbance), tremors, episodes of vision loss, slurred speech, occasional dystonia and limb stiffness, severe fatigue, brain fog, and slower thinking. Her symptoms fluctuate from day to day and typically worsen with stress or with shifts in her mood and thinking.

A. identifies stress as the principal trigger for symptom escalation, reporting that flares are more frequent when she feels overwhelmed, mentally tired, or exposed to sudden sensory input. This pattern suggests her symptoms may be affected by changes in alertness and how her brain processes sensory and internal signals—consistent with the FND literature (Nicholson et al., 2020a; Nicholson et al., 2020b). Understanding these unique symptoms is crucial when planning support. In this session, the priority was to ensure she felt safe and comfortable, and to explore how the W.A.R.A. method's emphasis on graded sensory input, co-regulation, and reduced self-focused attention might support her specific needs.

Purpose of the Session

As this was A.'s first session, the intervention focused on introducing and applying W.A.R.A. together with the introductory-level Forgive & Forget Hood. The session was designed to establish a foundation for emotional and physiological regulation while familiarizing A. with the core principles of the ReAttach approach. The primary objectives of the session were to:

1. Support the regulation of physiological and emotional arousal.
2. Reduce negative affect and promote a greater sense of emotional stability.
3. Support improved sensory organization and integration.
4. Introduce conceptualization strategies to facilitate the processing and organization of experiences.
5. Begin gentle associative restructuring in a safe and gradual manner.

6. Assess the participant's initial response to the intervention and determine the suitability of continued ReAttach-based support.

Intervention Procedures

Fast Tapping (Arousal Regulation)

Fast rhythmic tapping was administered to A.'s hands in a structured and supportive manner as a sensory and attentional strategy. This technique facilitates engagement with the present moment and delivers a predictable, rhythmic stimulus that shifts attentional focus from excessive self-monitoring toward an externally guided, shared task. This aligns with

rehabilitation principles for FND, in which redirecting attention away from the affected body part can promote more functional movement patterns (Nielsen et al., 2015). Because sensory hypersensitivity is relevant to FND, the tapping pace and intensity were graded and closely monitored according to A.'s individual tolerance (Nicholson et al., 2020b). The shared rhythmic activity also established coordinated attention and co-regulation, a prerequisite for associative processing in the multimodal architecture of ReAttach (Zeestraten-Bartholomeus et al., 2026). The tapping activity was further designed to deliver structured sensory input and to support the participant's sustained engagement during therapeutic interaction. In the context of FND, sensory hypersensitivity and processing difficulties are often relevant to an individual's functional presentation. Consequently, therapeutic approaches may require adaptation to accommodate the individual's sensory needs and tolerance. Graded and closely monitored sensory input should be considered as part of an individualized intervention strategy, especially when sensory sensitivity or hypervigilance is evident (Nicholson et al., 2020). Additionally, the shared rhythmic activity was employed to establish coordinated attention between the participant and the practitioner. Engaging in a simple, predictable, and jointly directed task aimed to foster therapeutic rapport and sustained participation. The application of rhythmic movement and modified attentional focus is consistent with rehabilitation strategies for functional motor symptoms, where attention is redirected from the affected body part or symptom toward an external or task-oriented focus (Nielsen et al., 2015). Throughout the procedure, A.'s responses to the tapping were monitored, and the pace and intensity of stimulation were adjusted to her individual tolerance and presentation. Accordingly, the intervention was implemented as an individualized preparatory technique rather than a standardized treatment protocol. The primary objective of this initial procedure was to establish a regulated and collaborative state, enabling the safe and gradual introduction of subsequent components of the W.A.R.A. intervention. This aligns with ReAttach's multimodal approach combining sensory processing, arousal regulation, and cognitive organization.

Parasympathetic Press (Calming)

Gentle two-finger parasympathetic presses (index and middle finger) were applied to the back of A.'s hands to activate a parasympathetic response, reduce hyperarousal, support co-regulation, and create optimal conditions for conceptualization. For a participant with FND experiencing prediction-error overload, this preparatory settling of the nervous system is highly relevant.

Psychoeducation: Prediction Errors

A. was given a simple explanation of prediction errors, describing how the FND brain can misinterpret sensory input, send mismatched signals, and overload the system under stress (Nicholson et al., 2020a). This explanation normalized her symptoms within a coherent neurobiological frame, reducing fear-based arousal by framing symptoms as misdirected signaling rather than unexplained damage.

Shelf Visualization (Reframing)

A. was guided to identify heavy thoughts and emotions and place them "on a shelf." This technique establishes cognitive distance and reduces affective load. It is consistent with the ReAttach method of emotionally neutral reframing, where material is repositioned rather than suppressed (Zeestraten-Bartholomeus et al., 2026).

Forgive & Forget Hood (Introductory Level)

A gentle introduction to the Forgive & Forget Hood (FFH) was provided, focusing on letting go of emotional "noise" and allowing the brain to reorganize neglected emotional material. Deep processing was intentionally avoided, maintaining consistency with ReAttach principles that regulation must be stable before more intensive work begins.

Participant Response

Emotional & Cognitive Response

A. reported feeling "a little bit lighter" and calmer. She described experiencing a "white" or "light" brain, indicating reduced cognitive load, and noted a partial ability to use the shelf visualization. These responses are consistent with early W.A.R.A. outcomes describing immediate affect-regulation effects (Bartholomeus, 2021; Weerkamp Bartholomeus et al., 2020a).

Physical Response

Physically, A. experienced mild tightness in her arms, likely from the tapping. Crucially, there was no seizure activity, no neurological worsening, and no adverse sensory reactions.

Engagement & Insight

A. followed instructions well, remained regulated, and

expressed curiosity. She demonstrated early insight into the relationship between stress and her symptoms, supporting her future capacity to use arousal-awareness strategies.

Affect Coach Observations

The Affect Coach observed that A. responded positively to co-regulation. Her affect intensity decreased during the parasympathetic press, and she demonstrated improved sensory organization following the tapping. A visible reduction in cognitive load was observed through slower blinking, softer facial tension, and improved verbal clarity. A. tolerated the intervention without destabilization and showed early signs of reduced rumination. The session felt "unusual" to the participant due to the novelty of the method, which is typical for first-time ReAttach participants.

Post-Session Outcome

The immediate outcome included a mild reduction in negative affect, improved cognitive clarity, increased parasympathetic activation, reduced overwhelm, and early conceptualization of affect. Post-session, A. expressed interest in practicing the techniques independently, observing her system's response, and deciding later whether to continue ReAttach remote sessions. She also requested follow-up via email and expressed interest in FND life coaching.

Clinical & Research Interpretation

Transdiagnostic mechanisms activated during the session included arousal regulation, sensory integration, cognitive bias modification, emotion regulation, reduction of prediction error overload, and improved joint attention. ReAttach mechanisms observed included co regulation, structured associative learning, conceptualization of affect, and reduction of negative-affect intensity.

A.'s response is highly consistent with the documented sensitivity of FND to arousal shifts, sensory overload, and stress-linked symptom escalation. Her improvement suggests that ReAttach, and W.A.R.A. specifically, may be beneficial for FND populations by targeting underlying transdiagnostic processes rather than focusing purely on symptom specific retraining. This supports recent literature highlighting the importance of affect focused, transdiagnostic approaches in FND (Painter et al., 2025a; Painter et al., 2026b).

Recommendations & Next Steps

It is recommended that A. continue W.A.R.A. sessions to strengthen affect regulation, with the eventual introduction of the full Forgive & Forget Hood once her regulation stabilizes. FND life coaching should be provided to assist with pacing, stress management, and prediction-error reduction. Symptom changes should be continuously monitored following self-practice. From a research perspective, A.'s case serves as a single-subject data point demonstrating the early efficacy of W.A.R.A.

and the potential suitability of ReAttach for FND.

Conclusion

A. demonstrated measurable reductions in negative affect and cognitive load following a single W.A.R.A. session, with early signs of improved sensory organization and affect conceptualization, without adverse effects. The findings support the hypothesis that ReAttach may be beneficial for individuals with Functional Neurological Disorder by targeting transdiagnostic mechanisms such as arousal regulation, sensory processing, and cognitive reframing.

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Declaration of Interest

None.

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