A: SUPPLEMENTAL TEXT

Text S1. Data preparation

Participant-level data from the spatially-defined motor function task was processed to remove invalid trials. These included trials in which the movement endpoint did not match target location, the movement was initiated before target onset, or the screen touch time was not recorded (the latter type of invalid trials was only removed for movement execution times). Across all participants, both hands used, and all research sessions, 4.60% and 7.85% of all completed trials were removed for further processing of movement initiation and execution times, respectively. Movement initiation and execution times that were 3 SDs above or below individual participant's mean for each task condition (i.e. each combination of movement time measure, hand used, hand starting position, and target location) were identified as participant-level outliers and replaced with the nearest non-outlier value (1.01% and 0.50%, respectively). If the number of invalid trials per task condition exceeded 3 SDs of a total group mean of invalid trials for that condition, we excluded participant's data from further analysis of this task. This meant that we could not obtain the complete set of the indices of directional hypokinesia or bradykinesia for some participants (8% of all possible indices).

Any missing logbook ratings of pain, interference, and range of movement were interpolated using linear regression, except for two participants who dropped out and did not return their logbooks. Participants who withdrew following treatment allocation and did not return their treatment logbooks (PA treatment n = 2, sham treatment n = 1) were assumed not to have completed any treatment sessions at home (thus their number of logged treatment sessions was entered as one, i.e. the in-person training).

Reaction times 3 SDs above or below participant's mean for each condition of the Hand Laterality Recognition task (i.e. each combination of depicted hand and image location) were identified as participant-level outliers and replaced with the nearest non-outlier value (0.69% of trials across all participants and research sessions).

Participant scores on the self-report questionnaires, clinical assessments, and computer-based tasks that were 3 SDs above or below the mean scores of their relevant treatment group were identified as group-level outliers and replaced with the nearest non-outlier value (0.98% of data points across all measures and sessions).

Any missing questionnaire items were estimated using the individual participant's mean for the relevant subscale (0.08% of items across all sessions and participants). Any missing data from the self-report questionnaires, clinical assessments, and computer-based tasks within each research session were replaced by a mean score of the relevant treatment group on the same measure (0.08% of data points across all measures and sessions). Note that six participants completed the test of spatially-defined motor function only with their unaffected hand (due to exacerbation of pain, limited range of movement, or weakness of the affected hand), but their affected hand data was not replaced because data for each hand was analysed separately.

For the exploratory best subsets regression analyses, we removed one influential observation (P11) from the analysis of change in pain intensity, but retained all observations for the analysis of change in CRPS severity. The pool of potential predictors was limited by excluding factors that were not linearly related with each outcome. We further identified predictors that were highly correlated with each other ($r > 0.70$), and excluded one of each pair, keeping the predictor that had higher correlation with each outcome. Moreover, as there were two indices of directional hypokinesia and

bradykinesia for each hand, we excluded one index of each pair which had lower correlation with each outcome. Overall, for the *change in pain intensity* outcome, we excluded baseline CRPS severity score, Mechanical Detection Threshold ratio, Mechanical Pain Threshold ratio, Point of Subjective Equality, and Point of Subjective Simultaneity (non-linear); grip strength ratio (colinear with delta finger-to-palm distance ratio) and Brief Pain Inventory pain severity (colinear with pain interference and current pain severity); directional hypokinesia Index A for the affected and Index B for the unaffected hand, and directional bradykinesia Index B for the affected and Index B for the unaffected hand (to retain single indices for each hand). For the *change in CRPS severity* outcome, we excluded baseline CRPS severity score, Mechanical Detection Threshold ratio, Mechanical Pain Threshold ratio, and Point of Subjective Equality (non-linear); delta finger-to-palm distance ratio (colinear with grip strength ratio) and Brief Pain Inventory pain severity (colinear with pain interference and current pain severity); directional hypokinesia Index B for the affected and Index A for the unaffected hand, and directional bradykinesia Index B for the affected and Index A for the unaffected hand (to retain single indices for each hand). Following these exclusions, variance inflation factors were < 5 for all best subsets fits.

Text S2. Per-protocol analysis

Per-protocol population consisted of participants who completed their allocated treatment according to the trained protocol and missed no more than six treatment sessions; and completed the primary outcome measures in RS1-RS4 (CRPS severity; n = 41) and LTFU1 and LTFU2 (pain; n = 37).

1. Participant characteristics

Supplemental Table S2 presents baseline characteristics and comparisons between PA and sham treatment groups. The two groups were matched on the minimisation factors and on baseline mean levels of optimism, mood disturbance, fear of movement, and expectations and criteria for success of the treatment (there were no significant differences between PA and sham treatment groups on any of the Patient Centred Outcomes Questionnaire items, Us ≥ 140.00, ps_{adj} ≥ .107, ds ≤ 0.60). Median number of logged treatment sessions did not significantly differ between the PA and sham treatment groups, indicating that they had similar extent of exposure to treatment.

2. Effects of PA treatment on the primary outcomes

We conducted a 2 (Group: PA, sham treatment) x 6 (Time: RS1-RS4, LTFU1-LTFU2) ANOVA on the primary outcome of current pain intensity (see Supplemental Figure S6a). A significant main effect of Time, $F(5, 175) = 2.46$, $p = .035$, $\eta^2_p = 0.07$, suggested an overall reduction in pain intensity (regardless of treatment) from RS2 to RS3, however, this effect did not withstand correction for multiple comparisons, Zs ≥ -1.77, ps_{adj} ≥ .320, ds ≤ 0.40. There were no significant Group, $F(1, 35) = 0.02$, $p = .901$, $\eta^2_p < 0.01$, or interaction effects, $F(5, 175) = 0.68$, $p = .638$, $\eta^2_p = 0.02$. Effect size of the difference in mean change in pain intensity over the treatment period (RS3-RS2) between the PA and sham treatment groups was small, d = 0.38, 95% CI [-0.24, 1.00]. Mean pain reduction in the PA treatment group was -0.86 points on 0-10 Numeric Rating Scale, BCa 95% CI [-1.89, -0.09]. In the sham treatment group, mean pain reduction was -0.20 points, BCa 95% CI [-0.89, 0.44].

A 2 (Group: PA, sham treatment) x 4 (Time: RS1-RS4) ANOVA on the primary outcome of CRPS severity score (see Supplemental Figure S6b) revealed a significant main effect of Time, F(2.29,

163.45) = 19.73, $p < .001$, $\eta^2_p = 0.34$. Follow-up contrasts indicated an overall reduction in CRPS severity (regardless of treatment) from RS2 to RS3, $Z = -3.91$, $p_{adj} = .002$, $d = 0.96$, which was maintained in RS4, $Z = -3.70$, $p_{adj} = .002$, $d = 0.90$. No significant differences between the remaining time points were found, $Zs \geq -1.85$, $ps_{adj} \geq .122$, $ds \leq 0.42$. There were no significant Group, $F(1, 39) = 0.11$, $p = .746$, $\eta^2_p < 0.01$, or interaction effects, $F(2.29, 163.45) = 0.35$, $p = .738$, $\eta^2_p = 0.01$. Effect size of the difference in mean change in CRPS severity over the treatment period (RS3-RS2) between the PA and sham treatment groups was small, d = -0.28, 95% CI [-0.89, 0.34]. Mean CRPS severity reduction in the PA treatment group was -0.86 points on 0-16 scale, BCa 95% CI [-1.27, -0.41]. In the sham treatment group, mean CRPS severity reduction was -1.25 points, BCa 95% CI [-2.05, -0.48].

Five participants in the PA group and four in the sham group achieved clinically significant reductions in pain [3], whereas none of the participants achieved clinically significant reduction in CRPS severity [7].

3. Effects of PA treatment on the secondary outcomes

Group average scores on the self-report questionnaires, clinical assessments, and experimental tests of neuropsychological functions across all time points are reported in Supplemental Table S3. Complete results of a series of ANOVAs conducted to test the effects of PA on these secondary outcomes and their time course (research questions 2 & 3) are reported in the tables, while in the text below we only refer to the effects directly relevant for our hypothesis, that is, Group x Time interactions.

Results of 2 (Group) x 6 (Time) ANOVAs on self-reported pain, body representation, and emotional functioning, and 2 (Group) x 4 (Time) ANOVAs on sensory, motor, autonomic, and neuropsychological functions are reported in Supplemental Table S4. Among these outcomes, the Mechanical Detection Threshold, Mechanical Pain Threshold, and delta finger-to-palm distance ratios, the Landmark task, and spatially-defined motor function task data were analysed using linear mixed models due to severe violations of normality, homogeneity of variance, and/or sphericity assumptions. The results are reported in Supplemental Table S5.

Overall, our analyses did not reveal any significant effects of PA compared to sham treatment on any of the secondary outcome measures. That is, there were no significant interactions between treatment group and time on these outcomes. One exception was Tampa Scale for Kinesiophobia, for which a significant interaction suggested that sham treatment group reported a decrease in fear of movement from RS2 to RS3 that appeared to be maintained in RS4 and LTFU2. However, these effects did not withstand correction for multiple comparisons, $ts \leq 2.76$, $ps_{adj} \geq .192$, $ds \leq 0.73$.

We also performed a series of *t*-tests on the daily logbook ratings. PA and sham treatment groups did not differ on average daily ratings of pain intensity ($ts(39) \leq 1.75$, $ps \geq .071$, $ds \leq 0.58$), symptom interference ($ts(39) \leq 1.44$, $ps \geq .158$, $ds \leq 0.45$), or range of movement ($ts(39) \leq 1.19$, $ps \geq .242$, $ds \leq 0.37$) at any time point during the first 10 weeks of the trial.

4. Per-protocol versus intention-to-treat analysis

The results of per-protocol analysis were largely consistent with those of intention-to-treat analysis in that there were no significant effects of PA on the primary or secondary outcomes. In fact, we did not find any significant interactions between Time and treatment Group that yielded significant differences following the corrections for multiple comparisons. There was an overall reduction in CRPS severity over the treatment period that was maintained four weeks later and was consistent

between per-protocol and intention-to-treat analyses. However, this reduction was regardless of the received treatment.

Text S3. Exploratory subgroup analyses

Subgroup analyses were not specified in the trial protocol [6] but are clearly labelled as exploratory in the manuscript and this supplemental file. These were conducted to aid interpretation of our findings that PA did not affect participants' pain intensity, CRPS severity, or spatial cognition, as we initially hypothesised. In particular, we wished to test for possible benefits to sets of patients identified according to CRPS symptom or neuropsychological profile.

1. Clinical phenotypes of CRPS and response to treatment

It has been proposed that CRPS is a heterogeneous condition, but the individual variability in the clinical signs clusters around two main phenotypes. Dimova et al. [2] recently developed a new phenotype score allowing to classify patients into two statistically derived clusters. The first, central phenotype, comprises CRPS signs consistent with the Central Nervous System reorganisation, that is, motor disorders, minor inciting injury, allodynia, and glove-like sensory deficits. The second, peripheral phenotype, is characterised by signs consistent with peripheral inflammation, that is, limb temperature and colour asymmetries, oedema, tropic changes, and sweating.

The hypothesised neuropsychological dysfunction in CRPS would be consistent with the Central Nervous System changes, and according to the proposed mechanisms of prism adaptation, it could reduce symptoms by normalising spatial cognition and/or body representation. Therefore, the intervention could be considered most adequate for those individuals with CRPS who can be classified into the central phenotype. To investigate whether any potential benefit of prism adaptation would be specific to this subgroup, we re-analysed the primary outcomes including only the subset of people in the intention-to-treat sample who were classified into the central phenotype (PA n = 7, Sham n = 11) according to the new algorithm [2] (see Supplemental Table S1). For this subset, we found no significant interactions between Group and Time on pain [$F(5, 75) = 2.16$, $p = .067$, $\eta^2_p = 0.13$] or CRPS severity [$F(3, 45) = 0.29$, $p = .836$, $\eta^2_p = 0.02$]. Thus, there was no evidence for any difference in the effects of PA versus sham treatment on the primary outcome measures, consistent with our primary analyses. Analysis of participants classified into the peripheral phenotype (PA n = 17, Sham = 15) also did not reveal any significant interactions on pain [$F(3.69, 110.76) = 0.92$, $p = .447$, $\eta^2_p = 0.03$] or CRPS severity [$F(2.02, 60.64) = 0.54$, $p = .585$, $\eta^2_p = 0.02$]. Overall, there was no evidence for greater reductions in pain or CRPS severity following PA treatment compared to sham treatment for participants with histories and signs consistent with the central phenotype.

2. Baseline neuropsychological changes and response to treatment

Two hypothesised therapeutic mechanisms of action of PA are that it normalises spatial attention bias and/or body representation. We explored the possibility that we did not observe any effects of PA treatment on pain or CRPS severity because participants did not show hypothesised attention bias away from the affected side or body representation distortion, which PA should have normalised. On average, their baseline performance on the experimental tests of visuospatial attention and representation of space did not significantly deviate from zero, neither towards nor away from the affected side. Confidence intervals around the mean or median scores on experimental tests of spatial cognition included zero in both baseline sessions (as well as post-treatment sessions; see Table 2 in the main text). In other work, we found that participants also did

not show any significant spatial biases in RS1 compared to a group of pain-free, healthy controls [5] (note that this paper reports the RS1 data from all the participants with CRPS included in the intention-to-treat analysis in the present study, and also data from five more participants who completed RS1 but withdrew before receiving any treatment). Furthermore, participants' baseline performance on the experimental measure of body representation (Hand Laterality Recognition task) was not consistent with the hypothesised impaired recognition of images of hands corresponding to participants' affected limbs (the average scores were negative and their confidence intervals included zero). However, participants with CRPS scored higher on the self-reported body representation disturbance compared to healthy controls [5]. If baseline "neglect-like" bias and/or body representation disturbance are necessary for PA to have therapeutic effects, these should be observed for the subgroup of participants who did show reduced attention to their affected side and/or distorted body representation. However, this was not the case in our study, as we illustrate here through (1) plotting individual data and correlational analysis, as well as (2) subgroup analyses of the primary outcomes.

First, in Supplemental Figure S4, we plotted individual pain intensity and CRPS severity reduction scores from immediately before treatment to immediately after treatment (RS3 – RS2), against individual RS2 scores on tests of visuospatial attention (Temporal Order Judgement, Landmark, and Greyscales tasks) and mental representation of space (Mental Number Line Bisection task). Furthermore, in Supplemental Figure S5 we plotted individual pain intensity and CRPS severity reduction scores against individual RS2 scores on the body representation questionnaire (Bath CRPS Body Perception Disturbance Scale) and Hand Laterality Recognition task. Lines of best fit and Pearson's correlation coefficients for each treatment group indicate that there were few apparent relationships between the changes on the primary outcomes of pain intensity or CRPS severity and any of the spatial biases or body representation distortion. The exceptions were moderate significant correlations between change in CRPS severity and baseline bias on the Greyscales task in the PA group, and change in CRPS severity and Hand Laterality Recognition reaction time index in the sham treatment group.

Second, we repeated the analyses of the primary outcomes, but including only those participants from the intention-to-treat sample who showed reduced attention to their affected side in RS2. Specifically, we selected participants who had negative Points of Subjective Simultaneity on the Temporal Order Judgement task (PA n = 13, Sham n = 13), because people with CRPS consistently showed spatial biases on this task in previous studies [1,4,8–10]. Then we also analysed participants who had negative bias scores on the Greyscales task (PA n = 11, Sham n = 9), because performance on this task correlated with CRPS severity reduction scores (Supplemental Figure S4). We found no interactions between Group and Time, thus no difference in the effect of PA treatment compared to sham treatment, on pain or CRPS severity for these subsets of patients [Temporal Order Judgement: pain, $F(2.96, 71.02) = 0.42$, $p = .733$, $\eta^2_p = 0.02$; CRPS severity, $F(3, 72) = 0.72$, $p = .541$, $\eta^2_p = 0.03$; Greyscales: pain, $F(5, 90) = 0.80$, $p = .554$, $\eta^2_p = 0.04$; CRPS severity, $F(2.08, 37.36) = 0.17$, $p = .854$, $\eta^2_p < 0.01$].

We also repeated the analyses of the primary outcomes including only those participants from the intention-to-treat sample who showed impaired laterality recognition of images of hands corresponding to participants' affected limbs in RS2, that is, had positive Hand Laterality Recognition accuracy indices (PA = 7, Sham = 8). There was no difference in the effect of PA treatment compared to sham treatment on pain or CRPS severity for this subset of patients. That is, we found no interactions between Group and Time on these outcomes [pain, $F(2.51, 32.59) = 0.93$, $p = .423$, $\eta^2_p = 0.07$; CRPS severity, $F(3, 39) = 0.32$, $p = .815$, $\eta^2_p = 0.02$].

Overall, the results of these exploratory correlational and subgroup analyses suggest that PA did not result in greater reductions in pain or CRPS severity than sham treatment for those participants who showed baseline "neglect-like" biases or those who showed distorted body representation. Therefore, it is unlikely that we did not observe any therapeutic effects of PA because our participants, on average, did not show any spatial biases or body representation disturbance.

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B: SUPPLEMENTAL TABLES

Table S1 *Individual participant characteristics at baseline (RS1) and treatment exposure*

ID	Age / Sex / Handedness	CRPS limb	Inciting injury	Dur.	Pain	CSS	Budapest symptoms / signs (phenotype[§])	Current treatments & medications	Comorbidities (pain / other)	EHI pre-CRPS / ΔEHI	Treat.
P01	60 / M / R	L	Hand surgery	51	7	9	A,Te+,C,O,Ra,Mo / C,Ra,Mo (Per)	Aspirin, paracetamol*	Frozen joints, hypertension	100 / 0	29
P02	50 / F / R	L	Hand STI, shoulder surgery	45	7	13	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,O,Ra,Mo (Cen)	Co-codamol, tramadol*, duloxetine, amitriptyline (LTFU2)[‡]	Fibromyalgia / Depression, IBS	100 / 0	29
P03[†]	36 / M / R	R	Finger & arm fracture	28	8	13	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr (Per)	Morphine, pregabalin, baclofen, oramorph*, paracetamol*, ibuprofen*	Depression, anxiety	100 / -150	1
P04	63 / F / L	L	Arm fracture	74	4	9	H,A,Te+,O,Sw,Ra,Mo,Tr / A,Tr (Cen)	Paracetamol, HT	Fibromyalgia	-100 / 0	29
P05	31 / F / R	L	Hand surgery	19	8	14	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Tr (Per)	Amitriptyline, fluoxetine, gabapentin, codeine, tramadol*, paracetamol*, PT	Fibromyalgia / Asthma	80 / 20	29
P06	50 / F / R	R	Wrist sprain/crush	83	5	11	H,Te,O,Sw,Ra,Mo,Tr / H,Sw,Mo,Tr (Per)	Ibuprofen, co-codamol, tramadol, amitriptyline (LTFU2)	CRPS NOS (L foot) / Asthma, Chronic Obstructive Pulmonary Disease, slipped disk	67 / -167	29
P07	39 / F / R	R	Finger STI	38	6	9	H,A,O,Sw,Ra,Mo / H,A,O,Mo (Cen)	Paracetamol*, ibuprofen gel*, codeine*, meditation	Joints hypermobility, burning in hands and feet / Depression, vestibular dysfunction, postural orthostatic tachycardia	100 / -50	28
P08	37 / F / R	R	Finger STI	48	7	13	H,A,Te-,C,O,Ra,Mo,Tr / H,A,Te-,C,O,Mo (Per)	Naproxen, tramadol, pregabalin, amitriptyline, TENS, PT (stopped LTFU1)	Anxiety, depression, dyspraxia	100 / -117	27
P09	71 / F / R	R	Hand STI & surgery	66	2	11	H,A,Te-,O,Ra,Mo,Tr / H,Te-,O,Ra,Mo,Tr (Per)	Paracetamol*, co-codamol* (RS3; stopped RS4)	-	100 / -111	28
P10	54 / F / R	L	Finger fracture, wrist STI	210	10	13	H,A,Te+,C,O,Ra,Mo,Tr / H,A,Te+,C,Ra,Mo,Tr (Per)	Gabapentin, amitriptyline, naproxen*, morphine patch*	Frozen shoulder (L), hip pain (L), back pain / Psoriasis, depression, diabetes II, high blood pressure, perforated ear drum (L)	56 / 44	29
P11	52 / F / R	L	Wrist fracture, elbow fracture & surgery	12	6	14	H,Te,C,O,Sw,Ra,Mo,Tr / H,Te-,C,Sw,Ra,Mo,Tr (Per)	Amitriptyline, paracetamol*, co-codamol* (stopped LTFU1)	-	29 / 38	29
P12	54 / F / R	L	Elbow fracture & surgery	63	7	12	H,A,Te,C,O,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr (Per)	PT, HT (stopped LTFU1)	-	60 / 40	29

ID	Age / Sex / Handedness	CRPS limb	Inciting injury	Dur.	Pain	CSS	Budapest symptoms / signs (phenotype[§])	Current treatments & medications	Comorbidities (pain / other)	EHI pre-CRPS / ΔEHI	Treat.
P13	40 / F / R	L	-	36	3	14	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Gabapentin, nortriptyline, tramadol*, PT, co-codamol (RS3)	Endometriosis, polycystic ovaries, tachycardia	0 / 5	27
P14	36 / F / R	R	Wrist fracture	135	5	13	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr	Pregabalin, duloxetine, co-codamol, PT, HT (stopped RS3)	-	62 / -22	28
P15	48 / F / R	R	Wrist surgery	64	7	11	H,A,Te+,C,O,Ra,Mo,Tr / H,A,C,Ra,Mo (Cen)	Tramadol*, tapentadol*, SCS (off)	Migraines / Arthritis (back)	100 / -57	31
P16	58 / F / R	R	Wrist fracture	3	2	13	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,C,O,Mo,Tr (Per)	Amitriptyline, paracetamol, ibuprofen, PT	Chronic headaches / Arthritis (L knee), osteoporosis (R hand & L foot; RS3)	89 / -14	29
P17[†]	39 / F / R	L	-	85	7	12	H,A,Te,C,O,Mo,Tr / A,C,O,Mo,Tr (Per)	Gabapentin, co-codamol, oxycodone, lidocaine patch*, ibuprofen gel*	Joints hypermobility	100 / 0	1
P18	49 / F / R	R	Wrist surgery	97	4	13	H,A,Te+,C,O,Ra,Mo,Tr / H,A,C,Sw,Ra,Mo,Tr (Per)	Oxycodone, naproxen, buprenorphine patch	Carpal tunnel syndrome (L wrist), depression, anxiety, diabetes	100 / -114	27
P19	59 / F / R	R	Wrist fracture	30	5	14	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Paracetamol, lidocaine patch, HT	Hips pain / Asthma, hyperacusis	100 / -176	28
P20	38 / F / R	L	Shoulder whiplash injury	31	7	10	H,A,Te-,C,O,Ra,Mo,Tr / A,C,Ra,Mo (Cen)	Amitriptyline, pregabalin, etoricoxib, duloxetine, HT, tai chi	Face & neck pain / Anxiety	100 / 0	29
P21	48 / F / R	L	Shoulder whiplash & STI	70	9	12	H,A,Te+,C,O,Sw,Ra,Mo,Tr / H,A,Ra,Mo,Tr (Cen)	Duloxetine, ibuprofen, lidocaine patch, pregabalin, tramadol, SCS, PT	CRPS (legs) / Crohn's disease, depression, thyroidectomy	100 / 0	28
P22	24 / M / L	L	Finger STI	103	6	13	H,A,Te-,C,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Nortriptyline	CRPS L leg / Depression	-43 / 116	27
P23	53 / M / R	R	Wrist fracture & surgery	93	5	14	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,O,Ra,Mo,Tr (Per)	Amitriptyline, pregabalin, co-codamol, tramadol, morphine, SCS, PT	-	100 / -200	29
S01	24 / F / R	R	Wrist sprain	42	8	15	H,A,Te,C,O,Sw,Ra,Mo,Tr / H,A,C,O,Ra,Mo,Tr (Per)	Pregabalin, tramadol, duloxetine	Fibromyalgia / Depression, anxiety, diabetes, polycystic ovaries, asthma	100 / -120	28
S02[†]	54 / F / R	L	Arm fracture & surgery	6	8	13	H,A,Te,C,O,Sw,Ra,Mo,Tr / H,A,C,Sw,Ra,Mo (Per)	-	Hypertension	40 / 60	15
S03	47 / M / R	R	Wrist fracture and surgery	38	7	13	H,A,Te,C,O,Sw,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr (Cen)	Lidocaine patch, co-codamol	Prostate cancer (remission), depression, anxiety	100 / -200	25
S04	31 / F / L	L	-	10	9	11	H,A,Te-,C,O,Ra,Mo,Tr / H,A,Sw,Ra,Mo (Cen)	Naproxen, gabapentin, buprenorphine patch	Fibromyalgia, migraines / Asthma, polycystic ovaries	-100 / 50	28
S05	66 / M / R	R	Arm STI	108	6	11	H,A,Te-,C,O,Tr / H,Te-,C,O,Mo (Per)	Pregabalin, nortriptyline	-	100 / -20	29

ID	Age / Sex / Handedness	CRPS limb	Inciting injury	Dur.	Pain	CSS	Budapest symptoms / signs (phenotype[§])	Current treatments & medications	Comorbidities (pain / other)	EHI pre-CRPS / ΔEHI	Treat.
S06	51 / F / R	L	Shoulder surgery	51	8	13	H,A,Te-,C,O,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Gabapentin, ibuprofen, paracetamol, tapentadol* & zolmitriptan* (migraines)	Frozen shoulder (R), migraines / Osteopenia (back)	80 / 20	29
S07	51 / F / R	R	Hand fracture	23	3	13	H,A,Te+,C,O,Ra,Mo,Tr / H,A,C,O,Ra,Mo,Tr (Per)	Gabapentin (stopped LTFU2), amitriptyline, lidocaine patch, ibuprofen*, paracetamol*, stellate ganglion block, PT (RS3), pregabalin (LTFU2)	Asthma, IBS	100 / -180	29
S08	50 / F / R	R	-	55	3	12	H,A,Te,C,O,Sw,Tr / H,A,O,Sw,Ra,Mo,Tr (Per)	Amitriptyline*, paracetamol*, mindfulness	Depression, hypothyroidism	100 / -114	29
S09	30 / F / R	R	Elbow fracture, wrist sprain & surgery	71	4	9	H,A,Te+,Sw,Ra,Mo / H,A,Te-,Ra,Mo (Cen)	Gabapentin, meptazinol, ibuprofen*, pizotifen* (migraines; RS4)	Fibromyalgia, joints hypermobility, chronic headache, migraines / Anxiety, depression, Carpal tunnel syndrome (R wrist; RS2)	100 / 0	29
S10[†]	66 / F / R	L	Finger fracture	75	2	11	H,A,Te-,C,O,Ra,Mo,Tr / H,A,Ra,Mo,Tr (Cen)	Co-codamol*, PT	-	100 / 0	8
S11	53 / F / R	R	Hand fracture	120	6	11	H,A,Te-,C,O,Ra,Mo,Tr / C,O,Ra,Mo,Tr (Per)	Ibuprofen*	Vertigo (RS4)	100 / -55	29
S12	36 / F / R	L	Finger & wrist STI	6	3	11	A,Te,C,O,Sw,Ra,Mo / H,A,C,Ra,Mo (Cen)	Gabapentin, PT, etoricoxib (RS2), ibuprofen* (LTFU1)	Fibromyalgia / Depression	100 / 0	29
S13	49 / F / R	L	Breast surgery	74	6	13	H,A,Te,C,O,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Gabapentin, fentanyl, baclofen, rizatriptan* (migraine), PT	Migraines / Depression	100 / 0	29
S14	73 / F / R	L	Arm STI	38	9	12	H,A,Te-,C,O,Ra,Mo,Tr / A,Te-,C,Ra,Mo,Tr (Cen)	Buprenorphine, amitriptyline, aspirin, PT	Feet burning and spasms / Nails infections, hypothyroidism, PTSD, anxiety	100 / 0	29
S15[†]	28 / F / R	L	Elbow STI	35	6	13	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr (Cen)	None	Migraines / Depression, anxiety, epilepsy	27 / 73	23
S16	20 / F / R	R	Hand STI	11	5	14	H,A,Te-,C,O,Ra,Mo,Tr / H,A,Te-,C,O,Mo,Tr (Per)	Paracetamol (stopped RS4), OT (stopped LTFU1), co-codamol (RS4), pregabalin (LTFU2)	Asthma	80 / -140	29
S17	25 / F / R	L	wrist sprain and laceration	46	6	13	H,A,Te+,C,O,Sw,Ra,Mo,Tr / H,A,Sw,Ra,Mo,Tr (Cen)	Tramadol*	Depression, PTSD	44 / 45	28
S18[†]	72 / M / R	L	Heart surgery	123	8	12	H,A,C,O,Sw,Ra,Mo,Tr / H,C,Sw,Ra,Mo,Tr (Per)	Lidocaine patch*	Hernia surgery (recent), high blood pressure	100 / 0	8
S19	44 / F / R	R	Hand surgery	20	8	14	H,A,Te,C,O,Sw,Ra,Mo,Tr / H,A,Te-,C,Ra,Mo,Tr (Per)	Gabapentin, amitriptyline	-	100 / -200	29

ID	Age / Sex / Handedness	CRPS limb	Inciting injury	Dur.	Pain	CSS	Budapest symptoms / signs (phenotype[§])	Current treatments & medications	Comorbidities (pain / other)	EHI pre-CRPS / ΔEHI	Treat.
S20	67 / F / R	L	Arm fractures & surgery	139	7	13	H,A,Te+,C,O,Sw,Ra,Mo,Tr / H,A,C,Ra,Mo,Tr (Cen)	Amitriptyline, gabapentin, duloxetine (stopped RS4), tapentadol	Peripheral neuropathy (L foot) / PTSD, depression, double vision, high blood pressure, anaemia, UTI, incontinence	100 / 0	29
S21[†]	41 / M / R	L	Shoulder dislocation	68	6	10	H,Te+,C,O,Sw,Mo / H,A,Ra,Mo (Cen)	Amitriptyline, pregabalin, morphine*	CRPS (L leg, face) / IBS	100 / 0	29
S22	35 / F / L	L	Wrist sprain	58	8	11	H,Te-,O,Ra,Mo,Tr / H,A,C,Mo,Tr (Cen)	Amitriptyline, pregabalin, co-codamol	-	-100 / 40	29
S23	37 / F / R	L	Wrist fracture	79	9	15	H,A,Te-,C,O,Sw,Ra,Mo,Tr / H,A,C,O,Sw,Ra,Mo,Tr (Per)	Amitriptyline, duloxetine, pregabalin, paracetamol, HT, tramadol* (RS2)	CRPS (L leg) / Fowler's syndrome	90 / 10	28
S24	37 / F / R	L	Shoulder dislocation & surgery	33	4	11	H,A,Te-,C,O,Ra,Mo,Tr / A,C,Ra,Mo,Tr (Per)	Morphine, paracetamol, TENS, PT, desensitization	Migraines / Polycystic ovaries	50 / 50	28
S25	47 / F / R	L	Wrist fracture	3	4	11	H,A,Te-,C,O,Ra,Mo,Tr / A,Te-,Ra,Mo,Tr (Per)	Lidocaine patch, naproxen (stopped RS4), PT, HT (stopped RS2), desensitisation	Hysterectomy; cholecystectomy	90 / 10	29
S26[†]	44 / F / R	L	Wrist sprain	28	7	13	H,A,Te,C,Sw,Ra,Mo,Tr / H,A,Te-,C,O,Ra,Mo (Per)	Paracetamol* (RS2)	Bipolar disorder	-18 / 118	1

[†] Participant withdrew from the trial.

- None.

[§] Classification into central (Cen) or peripheral (Per) phenotype based on algorithm in Dimova et al., 2020: phenotype score = mean of peripheral signs (temperature asymmetry, oedema, colour asymmetry, trophic changes, sweating) + mean of central signs (motor disorders [dystonia/myoclonus/tremor], minor injury [other than fracture/surgery/sprain], allodynia, glove-like sensory deficits). Absence of each sign is coded as 0, presence of each peripheral sign as -1, and presence of each central sign as +1. Positive score indicates central phenotype and negative score indicates peripheral phenotype. Participants were classified retrospectively and glove-like distribution of sensory deficits was not measured – instead, hypoesthesia was used as an indicator of sensory deficits.

* Medication taken as needed.

[‡] Time point in which a medication was introduced or stopped, or a new comorbidity reported, is specified in brackets where relevant.

ID, participant code (P, Prism Adaptation treatment; S, Sham treatment); M, Male; F, Female; L, Left; R, Right; STI, soft tissue injury; Dur., CRPS duration (months since diagnosis); CSS, CRPS symptom severity score; H, hyperalgesia; A, allodynia; Te, temperature asymmetry (+, CRPS limb warmer; -, colder); C, colour asymmetry; O, oedema; Sw, sweating asymmetry; Ra, decreased range of movement; Mo, motor dysfunction; Tr, trophic changes; RS2, RS3, and RS4, research sessions 2, 3, and 4; LTFU1 and LFTU2, long-term follow-ups 1 and 2; HT, hydrotherapy; PT, physiotherapy; TENS, transcutaneous electrical nerve stimulator; SCS, spinal cord stimulator; OT, occupational therapy; NOS, CRPS not otherwise specified (not meeting Budapest clinical diagnostic criteria); IBS, irritable bowel syndrome; PTSD, post-traumatic stress disorder; UTI, urinary tract infection; EHI pre-CRPS, recalled hand preference prior to CRPS onset (-100, extreme left-handedness; -40 – 40, ambidextrousness; 100, extreme right-handedness); ΔEHI, change in hand preference since CRPS onset (current – recalled pre-CRPS EHI score); Treat., number of completed treatment sessions (/29).

Table S2 *Baseline (RS1) participant characteristics by treatment group (per-protocol analysis)*

Measure	Prism adaptation treatment (n = 21)	Sham treatment (n = 20)	Contrast
Minimisation factors			
Current pain intensity (/10) *Mdn*	6.00 [5.00, 7.00]	6.00 [5.00, 8.00]	U = 189.00, p = .580, d = 0.17
CRPS severity score (/16) *Mdn*	13.00 [11.00, 14.00]	12.50 [11.00, 13.00]	U = 210.00, p = 1.00, d < 0.01
Primarily affected arm (% right)	48%	45%	$\chi^2(1)$ = .03, p = .876, ϕ = -0.03
Pre-CRPS dominant hand (% right)	91%	90%	$\chi^2(1)$ < .01, p = .959, ϕ = -0.01
Sex (% female)	86%	90%	$\chi^2(1)$ = .18, p = .675, ϕ = -0.07
Age (years) *M*	48.29 [43.00, 52.83]	43.65 [37.36, 50.39]	$t(39)$ = 1.14, p = .276, d = -0.35
CRPS in other body parts (% present)	14%	5%	$\chi^2(1)$ = 1.00, p = .317, ϕ = -0.16
Other non-CRPS pain (% present)	43%	45%	$\chi^2(1)$ = .02, p = .890, ϕ = -0.02
CRPS duration (months since diagnosis) *M*	61.71 [48.57, 75.91]	51.25 [34.72, 68.56]	$t(39)$ = 0.90, p = .397, d = -0.28
Other control measures			
Optimism (Revised Life Orientation Test; /24) *M*	12.90 [10.89, 14.76]	11.70 [10.07, 13.27]	$t(39)$ = 0.94, p = .360, d = -0.29
Mood disturbance (Profile of Mood States; /229) *M*	96.12 [80.01, 113.80]	84.80 [69.97, 100.30]	$t(39)$ = 0.91, p = .388, d = -0.28
Fear of movement (Tampa Scale for Kinesiophobia; /68) *M*	38.34 [34.18, 42.62]	39.90 [36.36, 43.63]	$t(39)$ = -0.55, p = .578, d = 0.17
Number of logged treatment sessions (/29) *Mdn*	29.00 [28.56, 29.44]	29.00 [28.52, 29.48]	U = 184.50, p = .418, d = 0.21

Bootstrapped bias-corrected and accelerated 95% confidence intervals are reported in square brackets.
There were no significant differences between groups on any measures.

Table S3 *Mean or median values [BCa 95% CI] of self-reported; sensory, autonomic, and motor; and neuropsychological secondary outcome measures at each time point (per-protocol analysis)*

Measure	Group	Time point					
		RS1	RS2	RS3	RS4	LTFU1	LTFU2
Self-report questionnaires							
Pain							
Pain severity (Brief Pain Inventory; /10) *M*	PA	5.84 [4.88, 6.70]	6.01 [5.04, 6.91]	5.22 [4.15, 6.27]	5.34 [4.30, 6.41]	5.47 [4.38, 6.57]	5.49 [4.43, 6.53]
	Sham	5.72 [4.82, 6.53]	5.63 [4.65, 6.49]	5.49 [4.61, 6.27]	5.49 [4.26, 6.50]	5.75 [4.83, 6.57]	5.58 [4.36, 6.59]
Pain interference (Brief Pain Inventory; /10) *Mdn*	PA	6.29 [5.71, 7.00]	6.29 [5.00, 7.29]	5.14 [2.57, 6.43]	5.14 [2.71, 6.71]	5.86 [2.50, 6.86]	5.71 [4.57, 6.57]
	Sham	5.79 [5.00, 6.86]	5.79 [3.81, 6.36]	5.36 [4.00, 6.29]	4.64 [3.43, 6.14]	5.14 [3.00, 6.57]	5.50 [3.14, 6.43]
Neuropathic features of pain (Pain Detect Questionnaire; /38) *Mdn*	PA	26.00 [26.00, 26.00]	24.00 [19.00, 26.00]	23.00 [19.00, 27.00]	22.00 [15.50, 27.00]	24.00 [16.00, 28.00]	24.00 [18.00, 28.00]
	Sham	23.50 [20.50, 28.00]	23.50 [19.00, 26.00]	22.50 [19.00, 26.50]	20.50 [14.00, 25.00]	21.00 [20.00, 24.00]	21.00 [17.00, 26.00]
Body representation							
Bath CRPS Body Perception Disturbance Scale (/57) *M*	PA	27.95 [21.83, 35.18]	27.21 [22.22, 31.85]	20.79 [15.15, 26.95]	23.74 [19.09, 29.00]	24.63 [20.12, 29.81]	23.32 [18.98, 28.62]
	Sham	27.89 [21.83, 34.07]	27.61 [20.82, 34.30]	27.83 [21.56, 34.14]	25.72 [18.59, 32.37]	26.22 [20.50, 31.74]	26.89 [21.31, 32.56]
Emotional functioning							
Fear of movement (Tampa Scale for Kinesiophobia; /68) *M*	PA	38.43 [33.82, 43.05]	38.11 [33.57, 42.82]	37.11 [33.01, 41.26]	37.79 [32.94, 42.45]	38.32 [33.56, 43.16]	39.95 [34.65, 44.90]
	Sham	39.44 [36.17, 42.72]	38.00 [34.75, 41.29]	35.94 [32.64, 39.31]	34.50 [30.78, 37.90]	35.85 [32.17, 39.41]	34.33 [30.58, 37.85]
Mood disturbance (Profile of Mood States; /229) *Mdn*	PA	105.00 [91.00, 108.00]	107.80 [75.00, 110.00]	95.00 [69.00, 107.00]	94.00 [63.00, 105.00]	86.00 [58.00, 112.50]	84.00 [58.89, 118.00]
	Sham	68.00 [58.00, 80.00]	84.00 [64.00, 113.00]	69.50 [60.50, 85.34]	78.00 [51.00, 90.00]	74.50 [49.00, 91.00]	82.64 [48.00, 102.00]
Perceived improvement due to treatment							
Patient's Global Impression of Change (/7) *Mdn*	PA	-	-	2.00 [2.00, 4.00]	3.00 [3.00, 3.00]	2.00 [2.00, 4.00]	3.00 [2.00, 3.00]
	Sham	-	-	2.00 [1.00, 5.00]	3.00 [1.00, 5.00]	2.00 [1.50, 2.00]	2.00 [1.00, 4.00]

Measure	Group	Time point					
		RS1	RS2	RS3	RS4	LTFU1	LTFU2
Clinical assessments							
Sensory functions							
Mechanical Detection Threshold ratio *Mdn*	PA	-0.04 [-0.67, 0.25]	-0.35 [-0.80, -0.13]	-0.44 [-0.76, -0.10]	-0.54 [-1.89, -0.10]	-	-
	Sham	-0.30 [-1.37, 0.62]	0.00 [-0.35, 0.17]	-0.27 [-1.19, 0.31]	-0.46 [-1.24, 0.45]	-	-
Mechanical Pain Threshold ratio *Mdn*	PA	0.62 [0.00, 0.69]	0.50 [0.43, 0.53]	0.07 [-0.32, 0.69]	0.50 [0.13, 0.69]	-	-
	Sham	0.58 [0.24, 0.67]	0.59 [0.44, 0.75]	0.61 [0.34, 0.84]	0.50 [0.26, 0.78]	-	-
Allodynia (affected; /100) *Mdn*	PA	14.00 [8.07, 26.67]	18.87 [4.33, 30.89]	16.90 [7.40, 26.67]	10.73 [2.53, 18.00]	-	-
	Sham	25.83 [8.36, 41.00]	14.67 [4.33, 32.00]	21.00 [2.27, 65.67]	25.00 [5.23, 52.00]	-	-
Two-Point Discrimination Threshold ratio *M*	PA	-0.05 [-0.24, 0.14]	-0.04 [-0.20, 0.11]	-0.19 [-0.39, 0.00]	-0.09 [-0.27, 0.09]	-	-
	Sham	0.11 [-0.05, 0.26]	0.00 [-0.20, 0.16]	0.03 [-0.14, 0.20]	0.08 [-0.14, 0.29]	-	-
Autonomic functions							
Absolut temperature difference (°C) *Mdn*	PA	0.57 [0.30, 1.43]	0.30 [0.13, 1.00]	0.47 [0.20, 0.73]	0.53 [0.17, 1.33]	-	-
	Sham	0.60 [0.25, 0.80]	0.72 [0.40, 1.10]	0.65 [0.40, 1.10]	0.43 [0.35, 0.83]	-	-
Oedema difference (cm) *M*	PA	0.04 [-0.40, 0.46]	-0.05 [-0.40, 0.27]	-0.22 [-0.66, 0.22]	-0.26 [-0.65, 0.12]	-	-
	Sham	-0.01 [-0.50, 0.57]	0.11 [-0.38, 0.63]	-0.01 [-0.52, 0.49]	0.19 [-0.27, 0.66]	-	-
Motor functions							
Grip strength ratio *Mdn*	PA	0.35 [0.18, 0.39]	0.31 [0.19, 0.44]	0.35 [0.30, 0.45]	0.39 [0.30, 0.46]	-	-
	Sham	0.28 [0.18, 0.66]	0.33 [0.14, 0.67]	0.44 [0.15, 0.81]	0.42 [0.16, 0.77]	-	-
Delta finger-to-palm distance ratio *Mdn*	PA	0.70 [0.62, 0.86]	0.67 [0.61, 0.84]	0.73 [0.63, 0.84]	0.79 [0.70, 0.82]	-	-
	Sham	0.85 [0.63, 0.92]	0.78 [0.42, 0.94]	0.88 [0.61, 0.92]	0.86 [0.64, 0.94]	-	-
Experimental tests of neuropsychological functions							
Visuospatial attention							
Temporal Order Judgement task (Point of Subjective Simultaneity; ms) *Mdn*	PA	-9.77 [-14.38, 5.52]	-3.76 [-14.83, 8.35]	-3.26 [-8.75, 11.16]	5.18 [-7.84, 20.27]	-	-
	Sham	-2.42 [-7.40, 7.06]	-0.75 [-8.33, 9.15]	1.17 [-5.25, 9.56]	-2.12 [-10.48, 11.52]	-	-

Measure	Group	Time point					
		RS1	RS2	RS3	RS4	LTFU1	LTFU2
Landmark task (Point of Subjective Equality; °) *Mdn*	PA	-0.01 [-0.25, 0.42]	0.06 [-0.04, 0.21]	0.03 [-0.10, 0.48]	-0.03 [-0.14, 0.19]	-	-
	Sham	0.06 [-0.09, 0.27]	0.05 [-0.12, 0.15]	-0.05 [-0.11, 0.10]	0.02 [-0.04, 0.09]	-	-
Greyscales task *M*	PA	-0.22 [-0.40, -0.03]	-0.15 [-0.38, 0.07]	-0.11 [-0.33, 0.09]	-0.14 [-0.37, 0.07]	-	-
	Sham	-0.05 [-0.26, 0.17]	-0.02 [-0.21, 0.19]	0.05 [-0.13, 0.22]	-0.04 [-0.22, 0.16]	-	-
Mental representation of space							
Mental Number Line Bisection task *M*	PA	-0.04 [-0.91, 0.75]	0.03 [-0.62, 0.71]	-0.11 [-0.69, 0.49]	-0.01 [-0.51, 0.50]	-	-
	Sham	0.35 [-0.21, 0.98]	0.24 [-0.41, 0.89]	0.05 [-0.60, 0.74]	0.15 [-0.32, 0.73]	-	-
Spatially-defined motor function							
Directional hypokinesia, affected hand, Index A (Movement Initiation Time; ms) *Mdn*	PA	-18.41 [-76.15, 44.53]	16.76 [-25.16, 32.93]	-16.32 [-64.67, -13.44]	-21.56 [-43.19, -5.87]	-	-
	Sham	-4.59 [-25.43, 13.03]	4.98 [-40.87, 15.79]	-40.48 [-58.35, -2.88]	-13.03 [-40.85, 1.72]	-	-
Directional hypokinesia, affected hand, Index B (Movement Initiation Time; ms) *Mdn*	PA	-27.95 [-84.09, -16.84]	-25.41 [-84.04, 40.70]	-43.14 [-63.51, -24.62]	-4.40 [-30.32, 8.72]	-	-
	Sham	-33.37 [-47.11, 50.73]	-6.76 [-44.59, 9.61]	-20.29 [-60.27, 7.38]	11.04 [-45.35, 40.53]	-	-
Directional hypokinesia, unaffected hand, Index A (Movement Initiation Time; ms) *Mdn*	PA	-5.80 [-26.78, 37.64]	5.61 [-17.46, 22.06]	3.39 [-32.09, 22.88]	-12.38 [-52.41, 17.33]	-	-
	Sham	7.21 [-0.31, 24.74]	7.70 [-11.05, 14.27]	3.42 [-10.41, 18.35]	-0.44 [-13.70, 25.06]	-	-
Directional hypokinesia, unaffected hand, Index B (Movement Initiation Time; ms) *Mdn*	PA	-0.77 [-44.84, 24.96]	7.45 [-17.01, 25.19]	7.04 [-27.53, 33.20]	-3.72 [-26.43, 39.44]	-	-
	Sham	2.56 [-17.32, 12.76]	9.18 [-10.21, 26.22]	0.77 [-13.43, 24.11]	19.39 [-2.21, 38.21]	-	-
Directional bradykinesia, affected hand, Index A	PA	48.04 [3.73, 245.60]	55.20 [-14.44, 176.32]	46.94 [7.88, 87.48]	50.15 [34.08, 107.84]	-	-

Measure	Group	Time point					
		RS1	RS2	RS3	RS4	LTFU1	LTFU2
(Movement Execution Time; ms) *Mdn*	Sham	81.14 [4.37, 108.44]	50.72 [5.28, 122.01]	31.79 [-0.20, 101.61]	33.37 [21.88, 55.57]	-	-
Directional bradykinesia, affected hand, Index B (Movement Execution Time; ms) *Mdn*	PA	-15.38 [-62.78, 12.93]	-95.85 [-182.07, -12.52]	-80.19 [-123.73, -64.61]	-67.48 [-92.39, -36.36]	-	-
	Sham	-96.11 [-195.76, -63.53]	-173.54 [-203.60, -28.19]	-81.52 [-146.50, -14.65]	-78.67 [-116.53, -58.59]	-	-
Directional bradykinesia, unaffected hand, Index A (Movement Execution Time; ms) *Mdn*	PA	106.75 [58.39, 122.06]	53.48 [21.61, 140.66]	81.27 [48.90, 100.58]	74.51 [37.54, 115.76]	-	-
	Sham	94.46 [75.44, 141.24]	83.44 [32.20, 143.56]	85.25 [68.35, 98.56]	56.18 [31.60, 67.12]	-	-
Directional bradykinesia, unaffected hand, Index B (Movement Execution Time; ms) *Mdn*	PA	44.75 [-46.27, 64.92]	39.66 [3.34, 54.94]	49.96 [28.52, 64.43]	16.71 [-12.88, 43.29]	-	-
	Sham	3.49 [-28.91, 37.31]	44.61 [-0.49, 64.77]	20.64 [-10.65, 48.57]	3.38 [-22.98, 12.57]	-	-
Body representation							
Hand laterality recognition Accuracy Index (%) *M*	PA	-2.67 [-5.89, 0.90]	-2.86 [-5.89, 0.02]	1.05 [-2.31, 4.41]	1.33 [-3.18, 5.65]	-	-
	Sham	2.50 [-3.00, 7.70]	-3.00 [-7.46, 0.83]	4.40 [-0.09, 8.93]	2.60 [-2.14, 7.56]	-	-
Hand laterality recognition Reaction Time Index (ms) *Mdn*	PA	-73.17 [-149.15, -6.80]	-99.42 [-321.06, 78.88]	-7.51 [-105.57, 91.93]	-84.89 [-191.84, -3.45]	-	-
	Sham	-45.78 [-153.70, 54.45]	-83.02 [-223.25, 14.50]	-87.71 [-240.98, 117.34]	18.54 [-123.40, 184.00]	-	-

PA, prism adaptation treatment; Sham, sham treatment; RS1, RS2, RS3, and RS4, research sessions 1, 2, 3, and 4; LTFU1 and LFTU2, long-term follow-ups 1 and 2.

Table S4 *Analysis of variance results for secondary outcome measures (per-protocol analysis)*

Measure	Effect	*df*†	*F*	*p*	η^2_p
Self-report questionnaires					
Pain severity (Brief Pain Inventory)	Time	3.98, 139.33	1.50	0.205	0.04
	Group	1, 35	0.01	0.944	< 0.01
	Time x Group	3.98, 139.33	0.69	0.600	0.02
Pain interference (Brief Pain Inventory)	Time*	3.24, 113.39	5.06	0.002	0.13
	Group	1, 35	0.15	0.702	< 0.01
	Time x Group	3.24, 113.39	0.83	0.489	0.02
Neuropathic features of pain (Pain Detect Questionnaire)	Time*	3.30, 115.47	4.20	0.006	0.11
	Group	1, 35	0.38	0.542	0.01
	Time x Group	3.30, 115.47	0.79	0.511	0.02
Bath CRPS Body Perception Disturbance Scale	Time*	3.42, 119.54	2.82	0.035	0.07
	Group	1, 35	0.43	0.515	0.01
	Time x Group	3.42, 119.54	2.15	0.089	0.06
Fear of movement (Tampa Scale for Kinesiophobia)	Time*	3.90, 136.61	3.02	0.021	0.08
	Group	1, 35	0.45	0.507	0.01
	Time x Group*	3.90, 136.61	4.08	0.004	0.10
Mood disturbance (Profile of Mood States)	Time	3.57, 125.02	2.47	0.055	0.07
	Group	1, 35	1.18	0.284	0.03
	Time x Group	3.57, 125.02	0.27	0.881	0.01
Patient's Global Impression of Change	Time	3, 105	0.64	0.588	0.02
	Group	1, 35	< 0.01	0.988	< 0.01
	Time x Group	3, 105	0.38	0.765	0.01
Clinical assessments					
Allodynia (affected limb)	Time	2.14, 83.43	1.13	0.332	0.03
	Group	1, 39	0.84	0.366	0.02
	Time x Group	2.14, 83.43	0.57	0.576	0.01
Two-Point Discrimination Threshold ratio	Time	3, 117	1.07	0.364	0.03
	Group	1, 39	1.81	0.186	0.04
	Time x Group	3, 117	0.80	0.499	0.02
Absolut temperature difference	Time	3, 117	0.66	0.577	0.02
	Group	1, 39	0.01	0.913	< 0.01
	Time x Group	3, 117	0.33	0.802	0.01
Oedema difference	Time	2.54, 99.16	1.12	0.339	0.03
	Group	1, 39	0.40	0.531	0.01
	Time x Group	2.54, 99.16	2.64	0.063	0.06
Grip strength ratio	Time*	2.36, 92.03	4.43	0.010	0.10
	Group	1, 39	0.28	0.599	0.01
	Time x Group	2.36, 92.03	0.78	0.479	0.02

Measure	Effect	*df*†	*F*	*p*	η^2_p
Experimental tests of neuropsychological functions					
Temporal Order Judgement task (Point of Subjective Simultaneity)	Time	1.74, 67.97	1.75	0.186	0.04
	Group	1, 39	0.35	0.556	0.01
	Time x Group	1.74, 67.97	0.73	0.466	0.02
Greyscales task	Time	3, 117	1.54	0.207	0.04
	Group	1, 39	0.97	0.330	0.02
	Time x Group	3, 117	0.15	0.927	< 0.01
Mental Number Line Bisection task	Time	2.41, 94.10	0.40	0.712	0.01
	Group	1, 39	0.30	0.586	0.01
	Time x Group	2.41, 94.10	0.16	0.885	< 0.01
Hand laterality recognition Accuracy Index	Time*	3, 117	2.71	0.049	0.06
	Group	1, 39	2.00	0.165	0.05
	Time x Group	3, 117	0.58	0.632	0.01
Hand laterality recognition Reaction Time Index	Time	3, 117	1.58	0.198	0.04
	Group	1, 39	0.87	0.357	0.02
	Time x Group	3, 117	0.47	0.702	0.01

* Statistically significant effect ($p < .05$).

† Greenhouse-Geisser adjusted degrees of freedom are reported where sphericity assumption was violated.

Table S5 *The results of the bootstrapped linear mixed models regressions of scores on the tests of sensory and motor function, visuospatial attention, and spatially-defined motor function - directional hypokinesia and bradykinesia (per-protocol analysis)*

Model term	Coefficient estimate [95% CI]							
	Sensory functions				Motor function		Visuospatial attention	
	Mechanical Detection Threshold ratio		Mechanical Pain Threshold ratio		Delta finger-to-palm ratio		Landmark task (Point of Subjective Equality)	
Intercept	-1.31 [-3.24, 0.31]		-0.09 [-0.89, 0.73]		0.70 [0.64, 0.75]*		0.25 [-1.28, 2.67]	
Time (RS2 = 0)								
RS1	-2.81 [-8.37, 1.05]		-0.57 [-1.92, 0.46]		-0.04 [-0.12, 0.04]		2.72 [-0.23, 8.90]	
RS3	-0.55 [-3.15, 1.66]		-0.66 [-1.99, 0.42]		-0.02 [-0.12, 0.05]		0.11 [-1.84, 2.16]	
RS4	-1.66 [-5.21, 1.24]		0.17 [-0.68, 1.12]		0.02 [-0.06, 0.10]		0.24 [-1.79, 2.58]	
Group (PA = 0)								
Sham	0.29 [-2.25, 2.80]		0.23 [-0.74, 1.20]		-0.01 [-0.09, 0.08]		-0.27 [-2.70, 1.23]	
Time x Group (RS2, PA = 0)								
RS1, Sham	2.95 [-1.97, 8.99]		0.32 [-1.13, 1.89]		0.05 [-0.06, 0.17]		-2.53 [-8.79, 0.47]	
RS3, Sham	-2.04 [-7.86, 2.51]		1.00 [-0.29, 2.47]		0.06 [-0.04, 0.19]		-0.09 [-2.13, 1.87]	
RS4, Sham	1.95 [-1.92, 6.40]		-0.04 [-1.19, 1.10]		0.02 [-0.08, 0.13]		-0.24 [-2.57, 1.76]	
	Directional hypokinesia (Movement Initiation Time)				Directional bradykinesia (Movement Execution Time)			
	Affected hand		Unaffected hand		Affected hand		Unaffected hand	
	Index A	Index B	Index A	Index B	Index A	Index B	Index A	Index B
Intercept	31.72 [-115.60, 136.20]	30.41 [-127.78, 174.97]	-27.48 [-94.91, 24.38]	-22.67 [-74.98, 21.53]	50.84 [-103.74, 169.43]	-116.48 [-188.02, -44.74]*	87.86 [55.03, 122.03]*	45.01 [13.52, 77.95]*
Time (RS2 = 0)								
RS1	-29.23 [-194.86, 121.55]	-40.50 [-241.18, 121.94]	41.87 [-22.44, 120.05]	12.49 [-50.71, 78.42]	-129.53 [-603.90, 164.88]	67.75 [-40.73, 192.13]	7.08 [-39.00, 50.36]	-33.52 [-99.06, 30.31]

RS3	-250.17 [-663.20, -5.27]*	-265.27 [-677.40, 5.61]	31.77 [-33.84, 122.10]	18.80 [-42.65, 90.16]	10.98 [-171.21, 162.96]	-6.82 [-108.75, 96.48]	-6.50 [-52.34, 34.75]	-2.43 [-40.59, 33.88]
RS4	-62.05 [-200.75, 52.76]	-42.62 [-228.78, 97.84]	1.82 [-70.40, 87.69]	22.41 [-37.17, 83.89]	23.73 [-134.83, 186.62]	51.90 [-41.76, 142.84]	-14.81 [-59.08, 25.21]	-27.16 [-71.17, 13.87]
Group (PA = 0)								
Sham	-43.75 [-150.14, 110.47]	-37.04 [-189.89, 118.58]	32.48 [-25.63, 104.72]	41.05 [-14.22, 108.37]	-3.16 [-131.20, 152.37]	25.69 [-74.31, 128.21]	-6.96 [-47.42, 33.73]	-24.73 [-68.42, 18.68]
Time x Group (RS2, PA = 0)								
RS1, Sham	30.79 [-126.93, 206.42]	52.40 [-115.17, 261.61]	-49.22 [-140.62, 32.79]	-52.67 [-161.06, 39.89]	143.71 [-161.33, 622.79]	-116.70 [-268.32, 43.71]	-0.74 [-63.40, 60.29]	17.87 [-61.55, 96.89]
RS3, Sham	246.39 [-6.06, 645.57]	251.56 [-21.01, 657.54]	-32.26 [-125.88, 41.88]	-32.33 [-111.24, 42.15]	-17.36 [-193.70, 167.19]	10.77 [-118.96, 148.00]	10.08 [-40.39, 59.93]	5.03 [-51.12, 59.11]
RS4, Sham	44.62 [-98.45, 202.44]	55.16 [-102.42, 258.32]	-4.74 [-98.42, 74.57]	-15.31 [-93.86, 66.73]	-26.95 [-189.23, 144.88]	-19.30 [-149.11, 109.53]	-10.53 [-58.80, 40.61]	4.72 [-46.91, 61.09]

* Significant effect (95% CI around the coefficient estimate does not include 0).

The reference condition for dummy variable coding is indicated within parentheses for each term.

PA, prism adaptation treatment; Sham, sham treatment; RS1, RS2, RS3, and RS4, research sessions 1, 2, 3, and 4.

C: SUPPLEMENTAL FIGURES

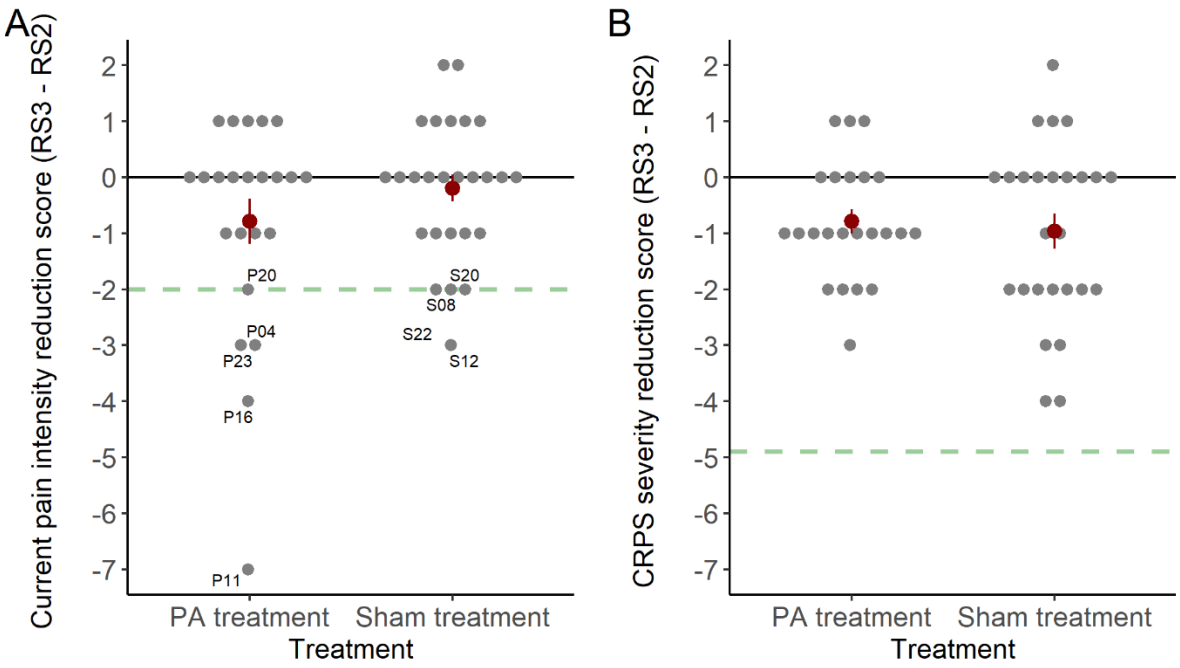

Figure S1. Individual pain intensity and CRPS severity reduction scores (intention-to-treat analysis). Grey circles represent individual participants' change on the primary outcomes of pain intensity (A) and CRPS severity (B) from immediately before treatment (RS2, research session 2) to immediately after treatment (RS3, research session 3). Negative scores indicate reduction in pain or CPRS severity over the treatment period. Red circles represent mean (95% CI) reduction scores in prism adaptation (PA) and sham treatment groups. Green dashed lines represent the threshold of clinically significant reduction in pain and CPRS severity, and labels represent IDs of participants who achieved that reduction (see Table S1).

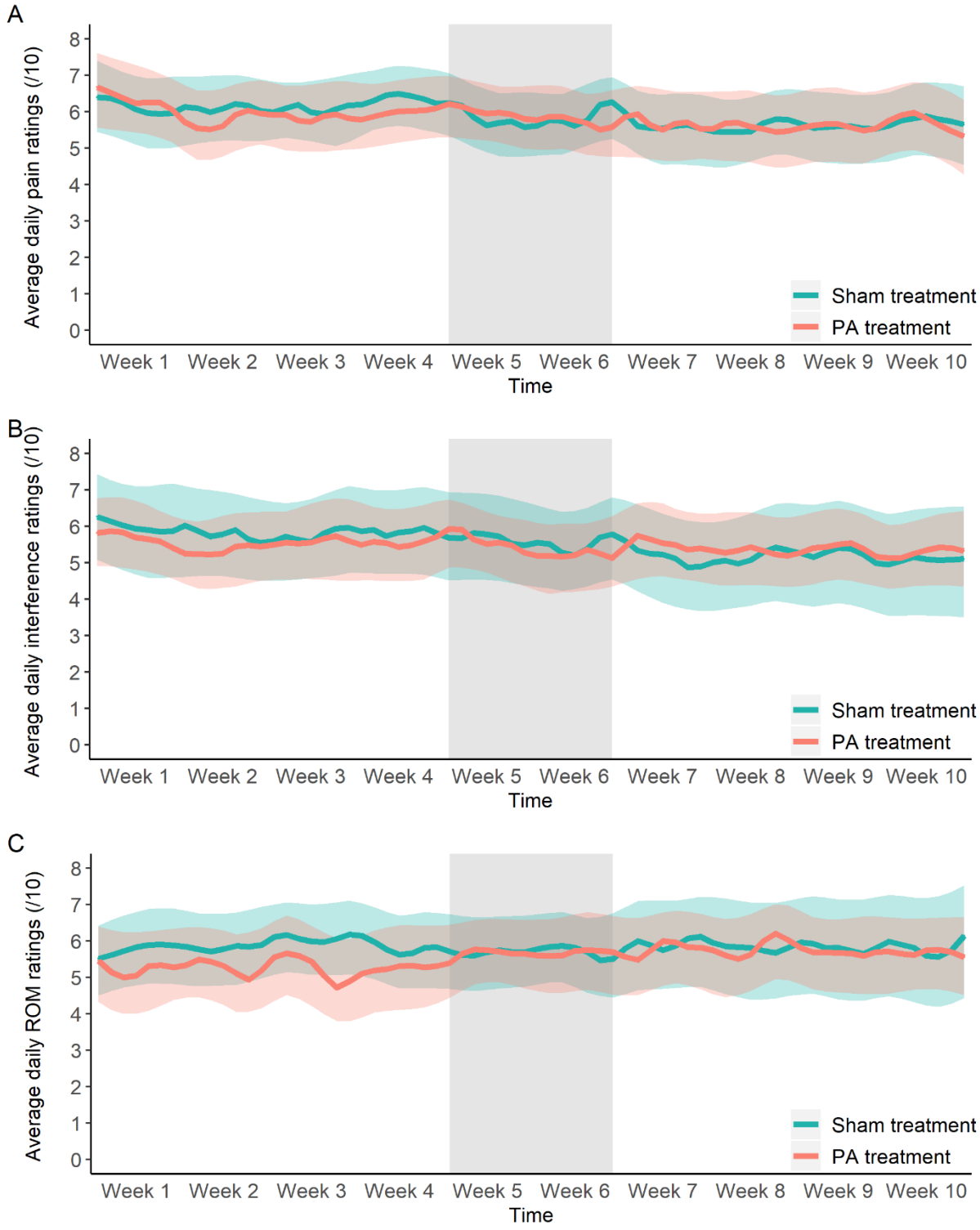

Figure S2. Daily logbook ratings (intention-to-treat analysis). Mean ratings of average daily pain intensity (A), symptom interference (B), and range of movement (ROM; C) in prism adaptation (PA; orange line) and sham treatment (blue line) throughout the first 10 weeks of the study. Higher scores indicate greater pain intensity, greater symptom interference, and better range of movement of the affected limb. Shaded areas around the lines represent BCa 95% CIs. Grey shaded rectangles represent the treatment period.

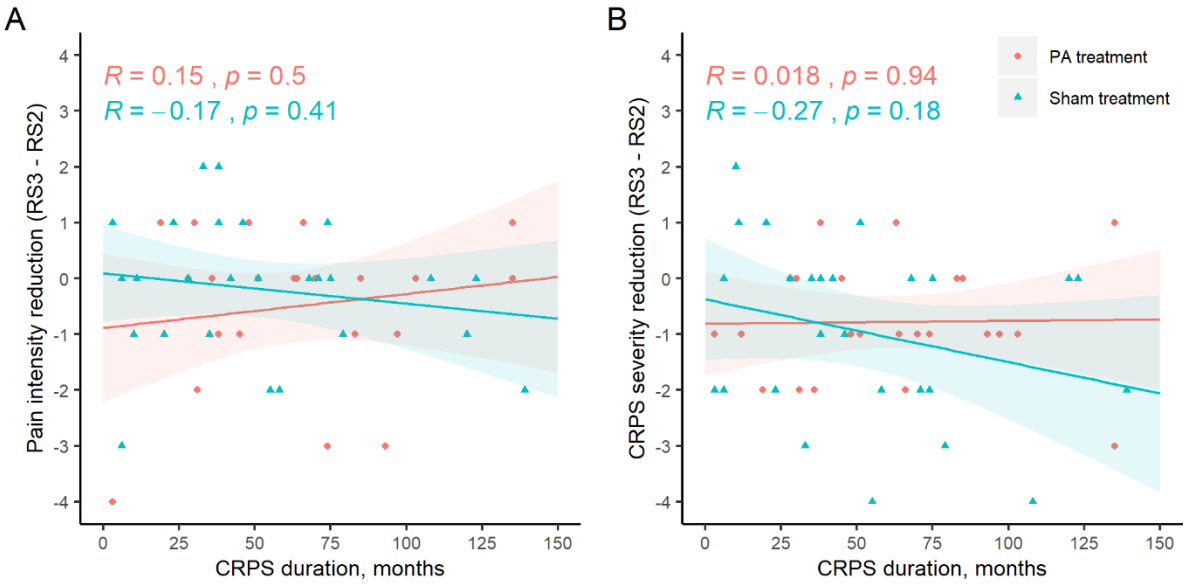

Figure S3. Scatterplots of changes on the primary outcomes vs. CRPS duration (intention-to-treat analysis). Relationships between individual participants' change in pain intensity (A) and CRPS severity (B) over the treatment period (between RS2, research session 2, and RS3, research session 3) and participants' disease duration (months since diagnosis) at the time of research session 1 are illustrated. Negative scores for pain and CRPS severity indicate reduction of these outcomes (i.e. improvement). Lines of best fit with confidence intervals (shaded surfaces) and Pearson's correlation coefficients are superimposed for each treatment group (prism adaptation, orange; sham treatment, blue). For pain reduction scores, one observation was removed as an outlier (score = -7).

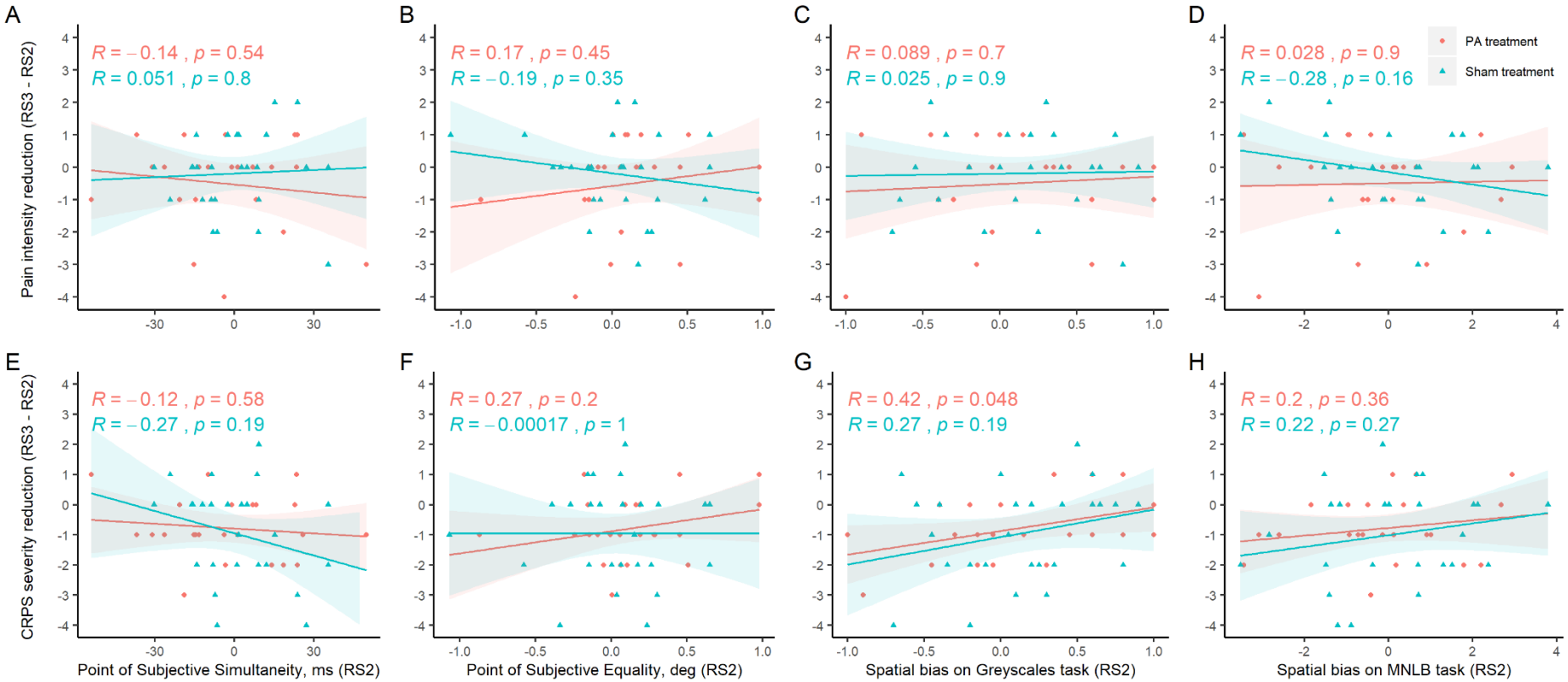

Figure S4. Scatterplots of changes on the primary outcomes vs. baseline performance on tests of spatial cognition (intention-to-treat analysis). Relationships between individual participants' change in pain intensity (top panel) and CRPS severity (bottom panel) over the treatment period (between RS2, research session 2, and RS3, research session 3) and their baseline (RS2) performance on the Temporal Order Judgement (A, E), Landmark (B, F), Greyscales (C, G), and Mental Number Line Bisection (MNLB; D, H) tasks are illustrated. Negative scores for pain and CRPS severity indicate reduction of these outcomes. Negative scores on the tests of spatial cognition indicate reduced attention to and/or representation of the affected relative to unaffected side. Lines of best fit with confidence intervals (shaded surfaces) and Pearson's correlation coefficients (R) are superimposed for each treatment group (prism adaptation, orange; sham treatment, blue). For pain reduction scores, one observation was removed as an outlier (score = -7).

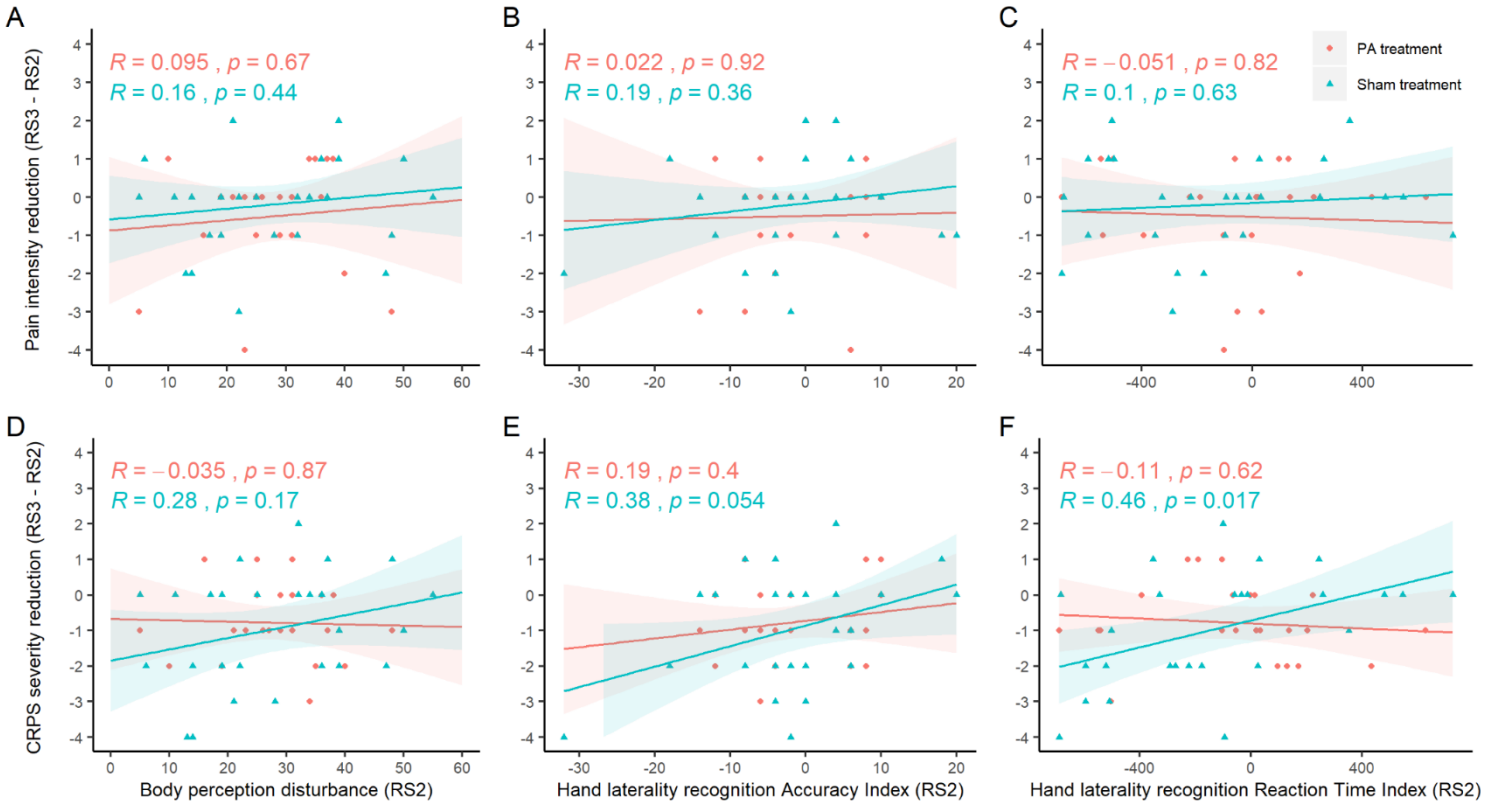

Figure S5. Scatterplots of changes on the primary outcomes vs. baseline scores on tests of body representation (intention-to-treat analysis). Relationships between individual participants' change in pain intensity (top panel) and CRPS severity (bottom panel) over the treatment period (between RS2, research session 2, and RS3, research session 3) and their baseline (RS2) scores on the Bath CRPS Body Perception Disturbance Scale (A, D), accuracy indices (B, E) and reaction time indices (C, F) on the Hand laterality recognition task are illustrated. Negative scores for pain and CRPS severity indicate reduction of these outcomes. Higher scores on the Bath CRPS Body Perception Disturbance Scale and more positive indices of the Hand laterality recognition indicate greater disturbance of representation of the affected limb. Lines of best fit with confidence intervals (shaded surfaces) and Pearson's correlation coefficients (R) are superimposed for each treatment group (prism adaptation, orange; sham treatment, blue). For pain reduction scores, one observation was removed as an outlier (score = -7).

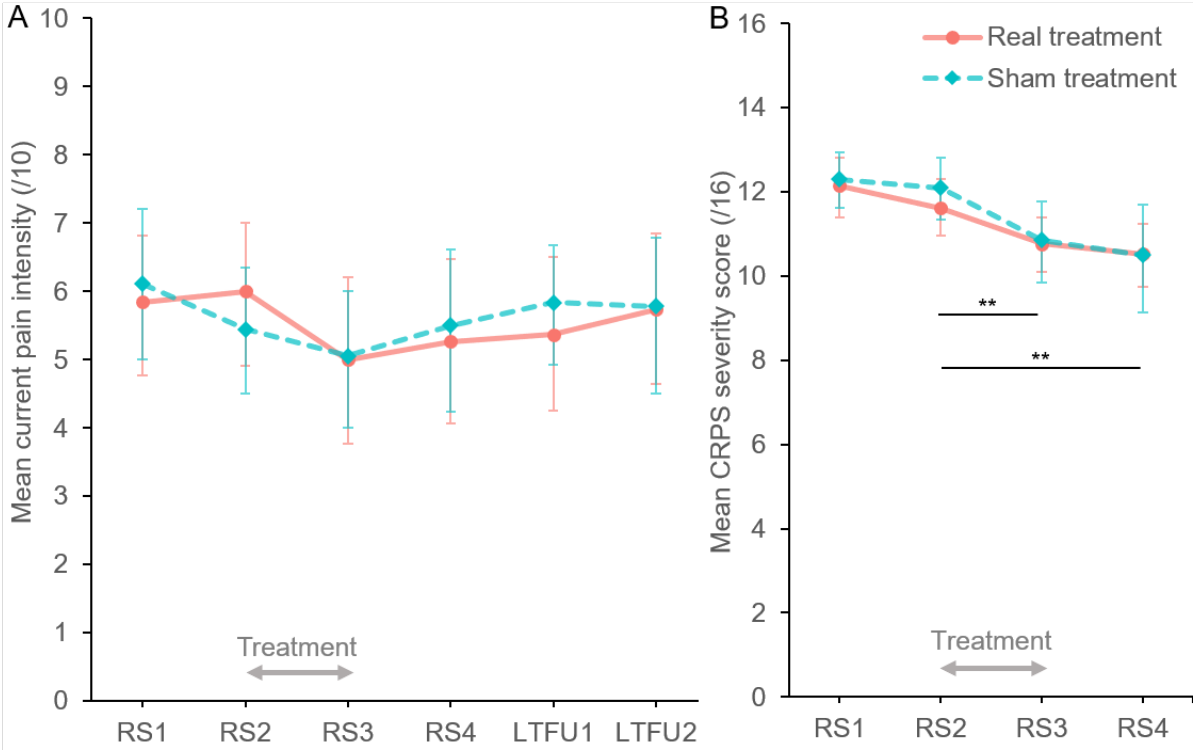

Figure S6. Primary outcomes (per-protocol analysis). Mean [BCa 95% CI] current pain intensity (A) and CRPS severity scores (B) in prism adaptation (PA; orange circles) and sham treatment (blue diamonds) groups in each time point. RS1, RS2, RS3, and RS4, research sessions 1, 2, 3, and 4; LTFU1 and LTFU2, long-term follow-up 1 and 2. Grey arrow represents treatment period.