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Introduction and Relevance

- Complex Regional Pain Syndrome (CRPS) is a painful condition that is notoriously difficult to treat.
- Rehabilitation interventions aim at restoring function to the affected limb, decrease pain and disability, and improve quality of life.
- Rehabilitation interventions for individuals living with CRPS include a broad range of modalities commonly delivered in a multimodal format.

Aims

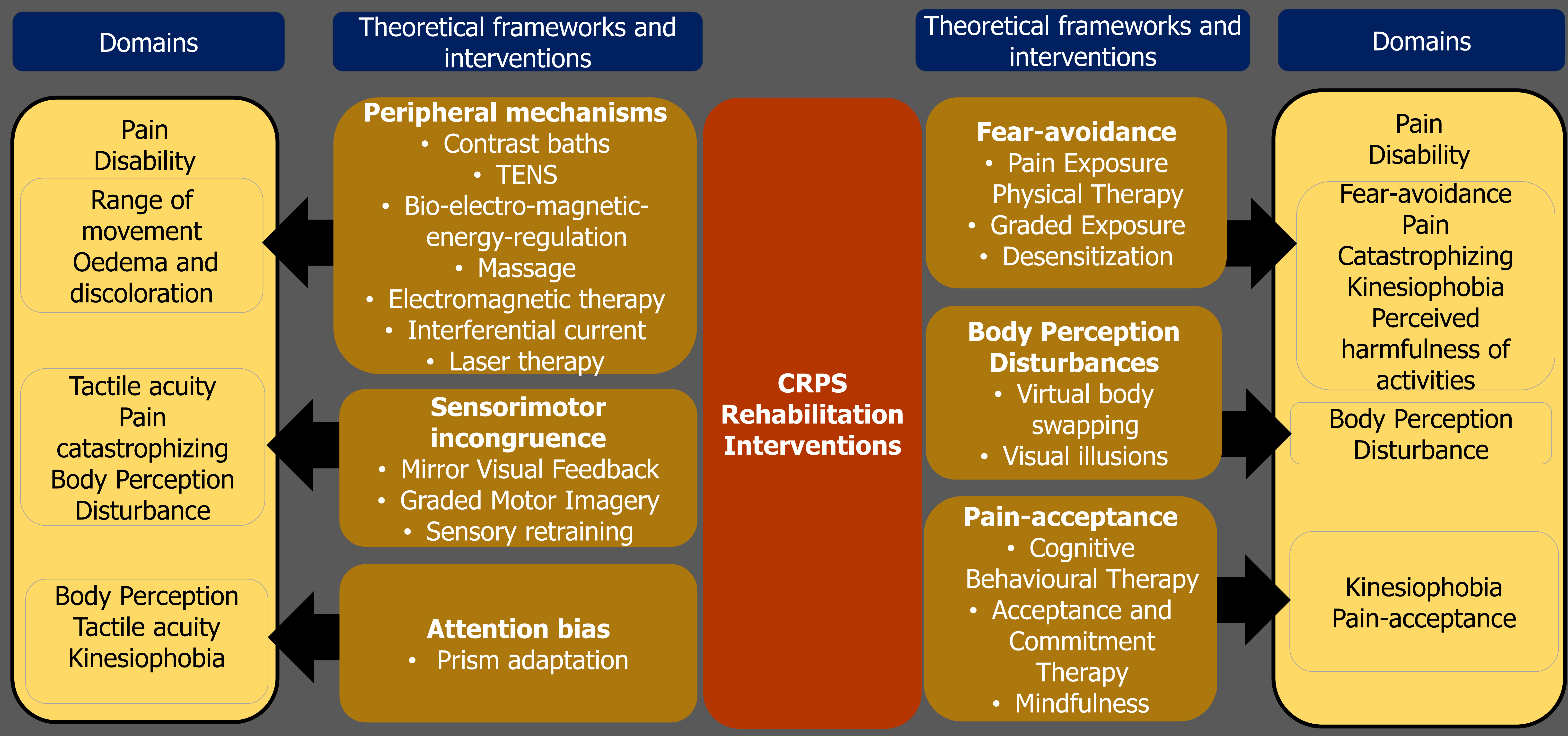
To review the current literature regarding rehabilitation interventions for adults living with CRPS, exploring the neurophysiological bases underpinning these interventions, and to report the domains and outcomes used to assess their effectiveness.

Methods

- Scoping literature review using the Joanna Briggs Institute (JBI) methodology.
- Databases: MEDLINE (PubMed), Embase, Scopus, APA PsycINFO (EBSCO), CINAHL, Cochrane, Scopus, OpenGrey Google, ProQuest Dissertations, and Theses Global ProQuest.
- Studies in English published between 2007-2023, coinciding with the development of the Budapest Criteria for CRPS diagnosis.
- Studies that described any form of rehabilitation delivered by a healthcare professional for adults with CRPS were included.

Results

- Database searches yielded 624 titles; 74 studies met the inclusion criteria. Experimental designs (n=26); reviews (n=17); case reports or case series (n=14); editorial comments (n=6); observational studies (n=4) and clinical guidelines (n=3) were the most common study designs.
- Large heterogeneity in the rehabilitation strategies used in adult CRPS rehabilitation was found and included: Educational interventions (n=2); Physical exercise interventions (n=22); Psychological interventions (n=3); Centrally-targeted interventions (n=25); Physical agent interventions (n=31); Exposure-based interventions (n=5).
- Pain (n=40) and disability (n=28) were the most common domains used to assess the effectiveness of these interventions, although a broad range of outcome measures was found.
- Six theoretical frameworks underpinning rehabilitation interventions were identified: Fear-avoidance (n=17); Pain-acceptance (n=4); Sensorimotor incongruence (n=29); Body Perception Disturbances (n=9); Attention bias (n=4); Peripheral mechanisms (n=13), but there was insufficient published data that describe the neurophysiological mechanisms of these interventions.



Discussion, conclusions and significance

- To develop a "best practice" model of rehabilitation intervention in CRPS, a better understanding of the neuropsychological mechanisms underlying rehabilitation interventions and consistency regarding outcome measures used to investigate the effectiveness of these interventions is recommended.
- This will inform clinical decision-making, allowing more-evidenced based clinical guidance, and ensuring more consistent clinical pathways for the treatment of people living with CRPS.

References and Acknowledgments

Ferraro et al., 2023 <https://doi.org/10.1002/14651858.CD009416.pub3>; Harden et al., 2010 <https://doi.org/10.1016/j.pain.2010.04.030>; Goebel et al., 2018 <https://www.rcplondon.ac.uk/guidelines-policy/complex-regional-pain-syndrome-adults>. We acknowledge Lisa Hirst, Librarian, for peer-reviewing and assisting with the search strategy.