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Therapeutic Massage Combined with Mirror Therapy for Phantom Limb Pain: Two Experimental Cases

Phantom limb pain (PLP) is a common and difficult to treat issue for individuals with amputations. Current PLP treatments (primarily pharmaceutical) are only modestly effective and often have negative side-effects. Massage has been self-reported as beneficial for PLP but no research has examined massage specifically for PLP. Mirror therapy's evidence base for PLP is building. Combining massage (which alone may impact PLP via Pflieger's law of symmetry) with mirror therapy may allow practitioners to apply massage for a painful area that cannot actually be touched.

The current quasi-experimental A-B-A withdrawal case series sought to descriptively examine outcomes of therapeutic massage combined with mirror therapy (TMwMT) for individuals with persistent lower limb PLP and establish feasibility of intervention delivery.

Each study phase was four weeks long with bi-weekly, individualized 20-25 minute TMwMT sessions during the treatment (B) phase. TMwMT sessions were developed and applied to address the specific participant PLP experience as if the pain were experienced by the intact limb. During masked TMwMT sessions, participants viewed a real-time mirror image of their intact leg receiving massage in the place of their missing limb. Measures: bi-weekly PLP severity via VAS; PLP intensity and interference collected at beginning/end of each phase via Brief Pain Inventory.

Two men completed the study protocol. PLP severity decreased during treatment for both participants with effects beginning to diminish by week two of the withdrawal phase. By the study's conclusion, PLP severity had not elevated back to average levels of initial phase A. Pain intensity for both participants improved during phase B but results were mixed for pain interference.

These individuals had not responded to previous treatments for their PLP; our experimental, non-pharmacological and targeted TMwMT treatment was beneficial in the short-term. Our intervention is theoretically sound, reflects aspects of real-world massage delivery, and needs further investigation.