

Effectiveness of Splinting in Adults with Radial Nerve Palsy

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PICO Question

Is dynamic splinting effective for improving hand function for adults with radial nerve palsy?

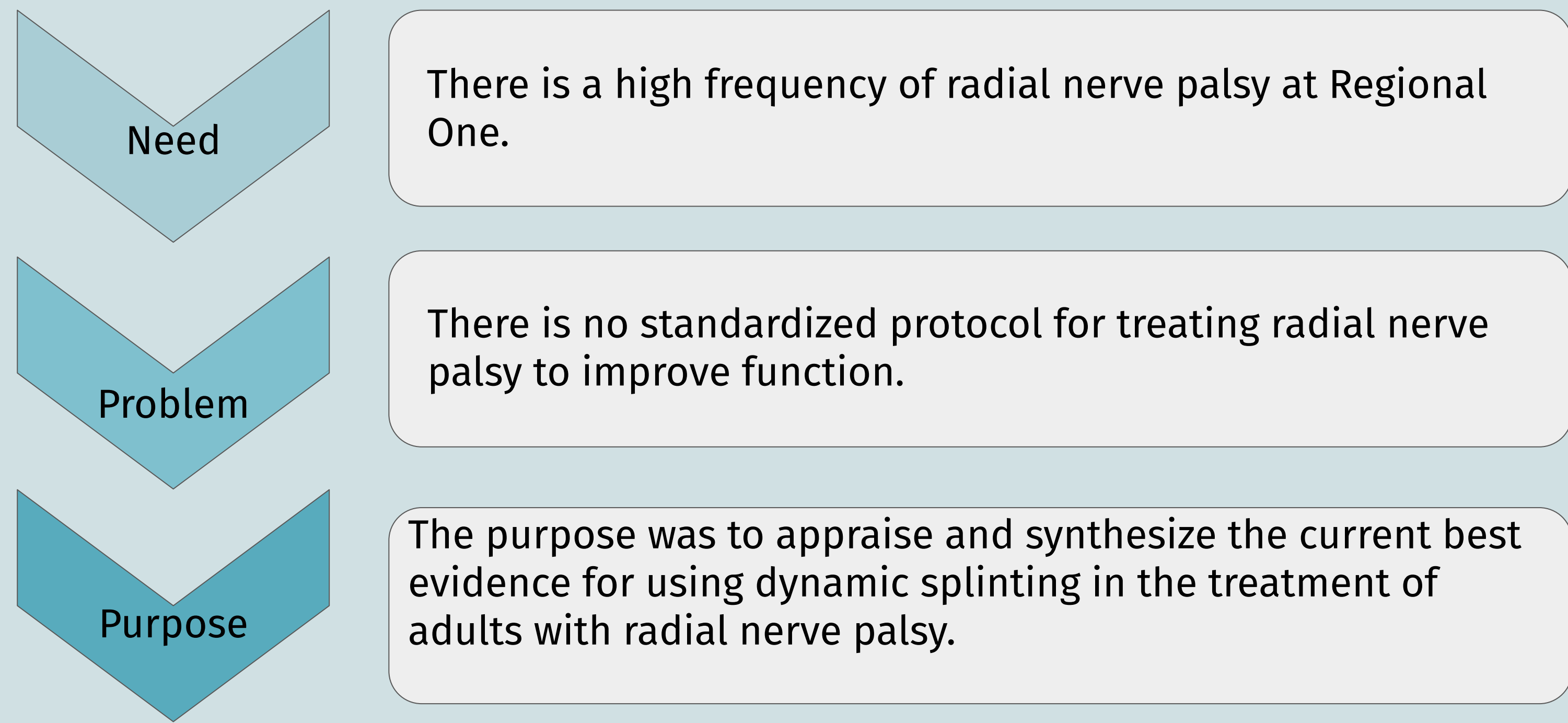
Search Methodology

Databases: PubMed, Google Scholar, CINAHL, Scopus, Medline @ Ovid	Search Terms: P: radial nerve palsy, radial nerve injury, radial nerve dysfunction I: dynamic splint, outrigger splint O: hand function
Inclusion Criteria: adult population, dynamic splinting as a component of the treatment, participants with radial nerve injury, measured hand function outcomes	Exclusion Criteria: non-English articles
Limits: humans only, adults, full text, within 20 years	

Clinical Bottom Lines and Recommendations

- Moderate and mixed evidence supports the use of dynamic splinting to increase hand function in clients with radial nerve palsy.
 - More research is needed.
- ➔
- Evidence suggests that both dynamic and static splinting may be effective for increasing hand function in clients with radial nerve palsy.
 - We recommend the use of a dynamic or static splint based on client preference with caution and close monitoring.

Background & Rationale



Search Results & Main Findings

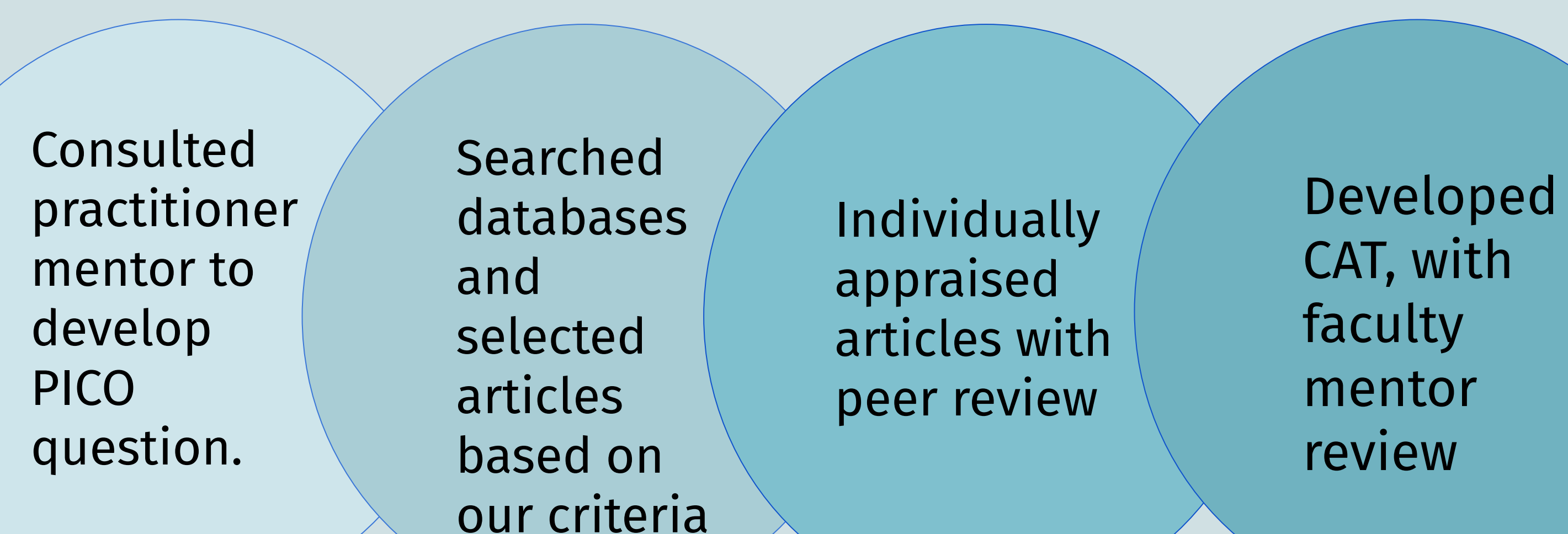
Level of Evidence and Quality Scores	Study	Findings	Limitations
Level II Small-scale RCT Quality Score: 70%	Cantero-Téllez, R., Miguel, M., & Cristina, T. (2016).	<ul style="list-style-type: none"> Hand Function + Static Splint - Dynamic Splint 	<ul style="list-style-type: none"> All participants also had a humeral shaft fracture. DASH was the only questionnaire used.
Level III Pre-test Post-test Design (Retrospective) Quality Score: 50%	Berner, S. H., & Willis, F. B. (2010).	<ul style="list-style-type: none"> Dynamic splint + ROM + Functional Use 	<ul style="list-style-type: none"> Co-interventions for some participants (e.g., surgery) Some participants discontinued use of their splint before the specified time due to regaining range of motion. Retrospective study
Level IV Case Studies Quality scores: 87.5%, 100%, 75%	Hannah, S. D., & Hudak, P. L. (2001). Mckee P, & Nguyen C. (2007). Ricci, F. P. F., McKee, P., Zampar, A. C., Semedo, A. C. G., Santiago, P. R. P., & Fonseca, M. D. R. (2019).	<ul style="list-style-type: none"> Hand Function + Dynamic Splint Client preferred the static splint (Hannah & Hudak, 2001). 	<ul style="list-style-type: none"> International studies (Hannah & Hudak, 2001; Ricci et al., 2019). No standardized outcome measures (Mckee & Nguyen, 2007; Hannah & Hudak, 2001). Added additional thumb abductor aspects to the splints (Hannah & Hudak, 2001; Mckee & Nguyen, 2007). Conducted more than ten years ago (Hannah & Hudak, 2001; Mckee &

Key: + Significantly increased - Did not significantly increase

Example Chart for Monitoring Splint Effectiveness

Date	Hours Worn	Activities Completed	Perceived Satisfaction (0-10)	Dynamic or Static?
4/24	8	Cooking	2	Dynamic
4/25	10	Playing guitar	10	Dynamic
4/26	9	Walking the dog	9	Dynamic

EBP Process



Line Graph



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References



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Splint Wearing Line Graph

Points scored

