

**Supplementary file: Study characteristics.**

	Method	Participants	Intervention	Outcomes	Author's conclusions	Time points and notes
Bani 2013	Randomised cross-over study	n=35 in 3 groups. Mean age 53.4 / 54.9 / 58.6. Female 67 / 75 / 73%.	PFN splint vs. CMT splint vs. no splint. Each 4 weeks with 2 weeks wash-out. Per day mean 8.4 / 8.2 h.	Pain (VAS 0-10): average pain during previous week. Function (DASH).	Pain: improved with both splints. Function: improved with both splints.	4 / 6 / 10 weeks.
Bani 2013a	Repeated measures observational study	n=18 Mean age 56. Female 83%.	CMT splint. Mean hours per day 8.6.	Pain (VAS 0-10): average pain during previous week. Function (DASH).	Pain: improvement. Function: improvement.	30 / 60 / 90 days. No controls.
Bani 2014	Repeated measures observational study	n=11 Mean age 55.4. Female 82%.	PFN splint with CMT stabilization. Mean h per day 7.9.	Pain (VAS 0-10). Function (DASH).	Pain: improvement. Function: improvement.	30 / 60 / 90 days. No controls.
Basford 1987	RCT	Intervention n= 47, control n=34 Mean age 56.5/ 62.8. No indication about gender.	Low energy laser, vs. placebo laser. 4 x 15 sec. 3x/week, for 3 weeks.	Pain- Stiffness. Activity. On scale 0 - 4 or 5.	No improvement for any of the outcomes.	At 1., 3., 6. and last session.
Becker 2013	Prospective parallel group trial	n=119. 62 completers. Mean age 63 (SD=8.1). Female 77%.	PFN splint vs. CMT splint. To wear as needed.	Disability (DASH). Satisfaction (6 item 11-point scale). Pain (VAS 0-10).	Improvements with both splints for all outcomes. No difference between splints except comfort (prefabricated neoprene more comfortable).	At second visit 5 – 15 weeks after provision of splint.
Berggren 2001	Prospective randomised study.	n=33 Mean age 63 (range 46–60) Female 100%.	All: advice on how to accommodate ADL's. Group 1 plus technical accessories. Group 2 plus technical accessories plus semi-stable textile splint. Group 3 plus technical accessories plus non-stabilizing leather splint.	Need for surgery.	Similar results for all groups.	7 months and 7 years. No controls.
Boustedt 2009	Comparative non-randomized controlled study	n=35 Mean age 61 (range 50-76) resp. 61 (range 40-76). Female 100%.	Joint protection only vs. JP plus splints 24h/d plus hot packs plus daily exercises. 5 weeks program, 10 group sessions.	Pain: VAS 0-100mm at night and in motion during the most recent week. Stiffness: VAS 0-100mm Disability: DASH.	Pain at night: improvement in multimodal group. Pain in motion: Improvement for both groups. Other outcomes: improvement for multimodal group.	1 week after end of the 5- week -program and after 1 year.
Buurke 1999	Prospective comparative study with randomized cross-design	n=10 Mean age 67.2 (range 37-90). Female 100%.	3 different types of splints: thermoplastic semi-rigid, firm elastic, supple elastic. Each worn 4 weeks.	Pain: VAS 0-10cm Function : VAS 0-10cm Function: Green test.	Pain: similar improvement for all splints. Function: best improvement for supple elastic splint.	No clear indications about time points, no baseline data. No controls.

Carreira 2010	RCT	n=40 Mean age 62.8 (SD =8.5), 65.1 (SD=10.1). Female 50% and 45%.	SG: CMT splint for ADL for 180 days. CG: first 90 days CMT splint only for evaluation, then day 90 - 180 CMT splint for ADL.	Pain: VAS 0-10cm, average pain previous week. Upper limb dexterity: O'Connor test Function: DASH	Pain: improvement with splint. Other outcomes: no improvement with splint.	After 45 / 90 / 180 days.
Davenport 2012	Pilot randomized controlled trial	n=48 Mean age 58 (SD=11) and 61 (SD=10). Female 88% and 77%.	Two different types of exercise: specific or general.	DASH. Pain: VAS 0-10 cm at rest and with pinch.	Similar improvement for both groups.	After 3 and 6 months.
Dickens 1989	Single-blinded RCT	n=13 Mean age 59 (SD=8.91) and 59.2 (SD=6.5). Female 57% and 60%.	Acupuncture vs. mock TNS. 6 times over 2 weeks.	Functional capacity: not explained. Joint tenderness: not explained. Sleep disturbances: not explained Subjective improvement: not explained Pain: VAS	Pain and disability: better with acupuncture.	End of treatment and 2 weeks later.
Hermann 2014	RCT	n=59 Mean age 70.2 (SD=6.2) and 70.7 (SD=7.3). Female 98%.	Exercises at home only vs. exercises at home plus soft elastic orthosis to wear in ADL.	Pain: NAS 0-10, following strength measure. Hand symptoms and activity: AUSCAN	Similar improvement for all outcomes. In orthosis group better improvement of pain with orthosis than without orthosis.	2 months.
McKee 2006	Observational study	n=20 Mean age 59 (SD=7.1). Female 89% and 82%.	CMT splint with TMC stabilization versus CMT splint with TMC plus MCP stabilization.	Pain: 10 point scale. Function: 10 point scale PRWHE.	Pain: improvement with both splints. Function: improvement with both splints.	4 weeks. No controls.
Merrit 2012	RCT	n=35 thumbs / 26 patients. No indication about age. Female 96%.	Heat, exercises, 2 orthoses, joint protection instruction vs. sham cream treatment. 4 weeks.	Pain: VAS 0-10 cm, Pinch pain, stiffness and function: AUSCAN.	Pain: improvement. Function: improvement.	4 weeks. Dissertation.
O'Brien 2013	Retrospective chart review	n=35 Mean age 58 (range 30-82) Female 89%.	Dynamic stability approach (=exercises plus splints plus joint protection).	Pain, function and symptoms: Quick DASH	Pain: improvement. Function: improvement.	Different time points, mean 44.5 days (17 - 195) after intervention. No controls.
Randall 2000	Randomized controlled double-blind cross-over study	n=27 Mean age 60 (range 45-82) Female 85%.	Nettle sting vs. placebo nettle sting 14. Twice daily for 1 week. Then 5 weeks washout followed by 1 week twice daily.	Pain: VAS 0-100mm. Pain: verbal rating scale Disability: Stanford Health questionnaire.	Pain VAS: improvement. Disability: improvement.	After intervention and 5 weeks later.

Rannou 2009	RCT	n=112 Mean age 63 (SD=7.9) and 63.5 (SD=7.6) Female 93% and 87%.	Custom- made neoprene splint for night plus usual care vs. usual care only (medicaments).	Pain: VAS 0-100mm during the previous 48h Disability: Cochin hand function scale.	Pain: improvement. Disability: improvement.	1 and 12 months. Unclear whether really neoprene or rather thermoplastic (see photos).
Silleme 2011	Observational cross-over study	n=56 in two groups (32 / 24). Mean age 64 (SD=8.61). Female 91%.	PFN splint vs. CMT hybrid with Aquaplast. 4 weeks / 1 week washout / 4 weeks	Function: AUSCAN Pain: AUSCAN pain sub scale	Pain: better improvement with hybrid. Similar improvements for other outcomes.	At 4 / 5 / 9 / 12 weeks. No controls.
Swigart 1999	Retrospective cohort study	n=114 patients (130 thumbs). No further informations given.	Long opponens variety splint for 3-4 weeks continuously, then weaning for 3-4 weeks	Improvement of symptoms: questionnaire with yes/no and quartiles.	Improvement.	Patient questionnaire 5 point –Likert scale No p-values. No controls.
Villafane 2011	Observational study	n=15 Mean age 81.9 (SD=6.51) Female 87%.	Median nerve mobilization. 4 times in 2 weeks, 3 times at each session	Pressure pain threshold: mechanical pressure algometer.	Pain: improvement.	5 min after intervention, 1 and 2 weeks. Author speaks of "secondary TMC oa". No controls.
Villafane 2011	RCT	n=36 Mean age 81.5 (SD=2.4) and 80.2 (SD=1.9). Female 100%.	Kaltenborn mobilization vs. sham ultrasound. 6 sessions in 2 weeks.	Pressure pain threshold: mechanical pressure gauge.	Pain: improvement	After treatment, after 1 and 2 weeks. Author uses SE instead of SD.
Villafane 2012	RCT	n=60 Mean age 80.9 (SD=2.9) and 81.7 (SD=2.9). Female 93% and 87%.	Radial nerve mobilization vs. sham ultrasound (inactive). 6 times over 4 weeks.	Pressure pain threshold: mechanical pressure algometer.	Pain: improvement.	Immediately after treatment, after 1 and 2 weeks.
Villafane 2012a	RCT	n=28 Mean age 81.4 (SD=5.1) and 83.7 (SD=5.8). Female 100%.	Passive accessory mobilization (passive gliding TMC) vs. sham ultrasound (non-therapeutic). 4 times in 2 weeks.	Pressure pain threshold: mechanical pressure algometer.	Pain: improvement No improvement for the other outcomes.	Immediately after treatment, after 1 and 2 weeks.
Villafane 2013	RCT	n=60 Mean age 82.2 (SD=2) and 83.1 (SD=1). Female 90% and 80%.	Multimodal (joint mobilization, neurodynamic mobilization, exercises) vs. sham ultrasound (non-therapeutic, 0 W/cm <sup>2</sup> ). 12 times in 4 weeks, 3 times a week	Pain: VAS 0-10cm, with key pinch. Pressure pain threshold: mechanical pressure algometer.	Pain: Improvement for intervention group. No improvement for other outcomes.	Immediately after treatment, after 1 and 2 months.

Wajon 2005	RCT	n=40 Mean age 59.7 (SD=9.0) and 61.2 (SD=12.5). Female 74% and 81%.	2 weeks thumb base strap, then 4 weeks strap plus abduction exercises vs. 2 weeks short opponens splint, then 4 weeks splint plus pinch exercises.	Pain: VAS 0-10cm, at rest. Hand function: Sollerman test of hand function (0-80 points).	All outcomes: similar improvement for both groups	2 and 6 weeks. No controls.
Weiss 2000	Observational cross-design study	n=26 Mean age 57 (range 36-88). Female 81%.	CMT short or long opponens splint. Each for 1 week. "Whenever they feel pain".	Pain: VAS 0-10cm, during and after functional use and at pinch grip. ADL: 22 items 3-point self-rating scale.	Pain: similar improvement for both splints. Function: improvement with short splint No improvements for other outcomes.	Measured after each week.
Weiss 2004	Observational cross-design study	n=25 Mean age not given. Female 84%.	Long PFN splint vs. CMT short opponens splint. Each 1 week. To wear as needed	Pain: during and after use, when pinching, VAS 0-10cm. Function: ADL self-rating scale.	Pain: better improvement for PNF. Function: better improvement with PFN.	Measured after each week.

#### Abbreviations :

- ADL: activities of daily life
- CMT: custom-made thermoplast splint
- JP: joint protection
- MCP: metacarpophalangeal joint
- PA: posterior-anterior
- PFN: prefabricated neoprene splint
- RCT: randomized controlled d trial
- TMC: trapeziometacarpal joint
- TNS: transcutaneous neurostimulation