

Getting Evidence into Clinical Practice:

Musculoskeletal Research Facilitation Group (CAT Group)

Date: 31.10.2018

Specific Question:

Are 24 hour use splints more effective than night splints in the improvement of symptoms in mild to moderate carpal tunnel syndrome?

Clinical bottom line

There is no evidence that 24 hour use splints are more effective than night splints in the improvement of symptoms in mild to moderate carpal tunnel syndrome.

The practice of using night splints in the management of symptoms in mild to moderate carpal tunnel syndrome remains unchanged.

Further research in the use of splints for varying periods of time is recommended to find the optimum period of splint use to improve symptoms of pain and increased function.

Why is this important?

There is limited evidence that the use of night splints is effective in the improvement of symptoms in the management of mild to moderate carpal tunnel syndrome in primary care. Anecdotally, some patients have found additional benefit in using night splints for varying periods during the day. There is no additional cost to the NHS by extended use of night splints and therefore it would be of considerable clinical benefit if extended use of rest splints improved clinical outcomes.

Search timeframe (e.g. 1986- August 2018)

CAT Lead: Dr Graham Davenport

Date CAT completed: 31.10.2018

To be reviewed in 5 years i.e. 31.10.2023

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Inclusion Criteria

	Description	Search terms
Population and Setting	Adults with carpal tunnel syndrome in a primary care population	CARPAL TUNNEL SYNDROME# OR "carpal tunnel syndrome" AND SPLINT# or splint* OR "resting wrist splint*" OR "nocturnal splint*" AN "treatment duration" OR time* OR "wearing schedules" OR "TIME FACTORS# Excluding carpal tunnel decompression Search was limited to English Language, Adult and Human
Intervention or Exposure		Resting wrist splints for carpal tunnel syndrome
Comparison, if any		All studies using splints for any length of time compared with each other or placebo
Outcomes of interest		Symptom improvement i.e. improvement in function and reduction in pain.

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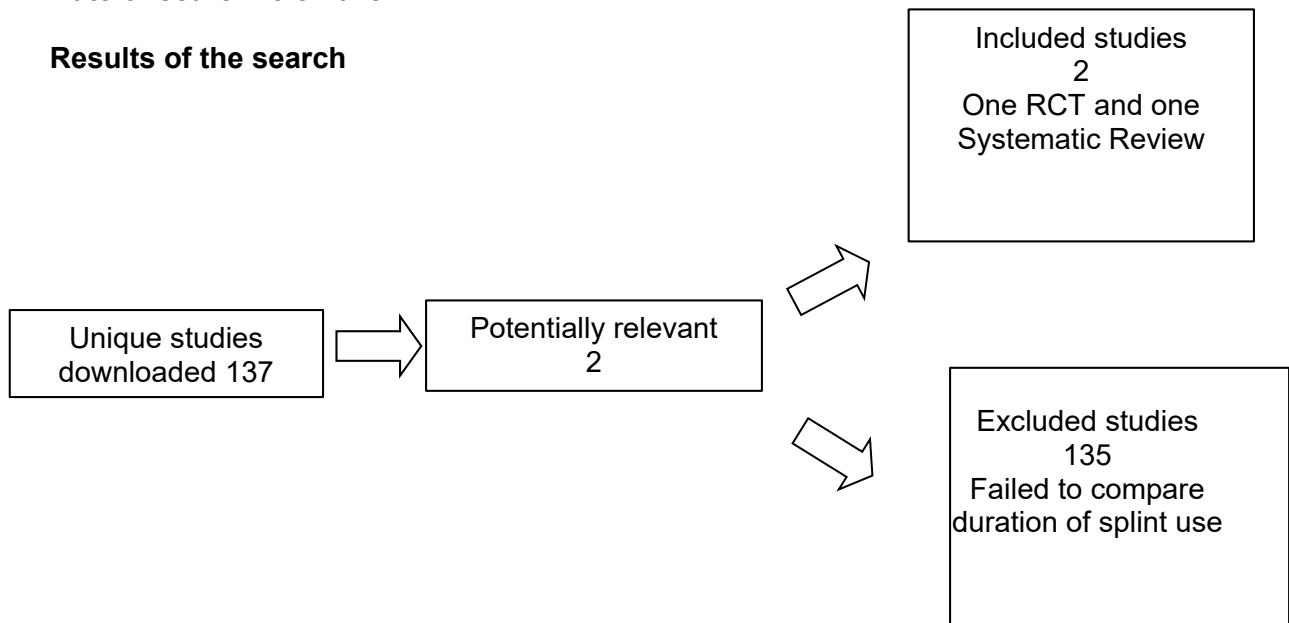
Types of studies		Randomised Controlled Trials, Systematic Reviews
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Routine Databases Searched

Cochrane Systematic Reviews, NHS Evidence, DARE/HTA/NHSEED, Medline, CINAHL, AMED, Psycinfo, Cochrane (CENTRAL), Web of Science, Embase.
Other databases: OT Seeker, TRIP, Joanna Briggs Institute, PEDro.

Date of search- 3/8/2018

Results of the search



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Table 1- Detail of included studies

First Author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Page M J 2012 Cochrane Systematic Review : Splinting for Carpal Tunnel Syndrome	19 RCTs with 1190 participants	Only one trial (Walker WC- see below) compared different splint wearing regimes.	There is insufficient evidence regarding the effectiveness of one splint wearing regime over others.	They concluded that the Walker WC trial (below) was of poor quality and there was insufficient evidence to draw any conclusions from that trial.

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<p>Waker et al 2000</p>	<p>Veterans Administrations Medical Centre, outpatient clinic. USA. Adults with untreated carpal tunnel syndrome</p>	<p>Twenty one patients (30 hands) enrolled and 17 patients (24 hands) completed the study. Randomised to either full-time or night-only wear of neutral wrist splints.</p>	<p>73% of full-time group reported splint wear less than one half of of waking hours and 23% of the night-only group reported occasional daytime wear. Participants receiving full-time wear instructions showed superior distal latency improvement , both motor and sensory, when compered with subjects receiving night-only wear but no significant differences in clinical outcomes were reported between the two groups. The study concludes that physiological improvement is best with full-time splint wear instructions.</p>	<p>Poor quality study with small number of participants. Very poor compliance with splint usage. Results have been reviewed by the Cochrane Systematic Review who conclude that the results are unreliable mainly due to the lack of information regarding the correlation between wrists in participants with bilateral CTS which may have produced overly narrow 95% CIs with artificially smaller P values.</p>
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Summary

There is limited evidence that a splint worn at night is more effective than no treatment in the short term but there is no evidence that 24 hour splint use confers an advantage over night splint use in improving clinical outcomes in adults with carpal tunnel syndrome in primary care.

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Implications for Practice/research

There is a need for more research into comparing the use of splints over different time periods in improving clinical outcomes in adults with carpal tunnel syndrome in primary care.

What would you tweet? (140 characters)

There is no evidence that 24 hour use splints are more effective than night splints in the improvement of symptoms in mild to moderate carpal tunnel syndrome.

References

Page MJ, Massy-Westropp N, O'Connor D, Pitt V.

Splinting for carpal tunnel syndrome.

Cochrane Database of Systematic Reviews 2012, Issue 7. Art. No.: CD010003. DOI: 10.1002/14651858.CD010003.

Walker WC, Metzler M, Cifu DX, Swartz Z. Neutral wrist splinting in carpal tunnel syndrome: a comparison of night-only versus full-time wear instructions. *Archives of Physical Medicine and Rehabilitation* 2000; **81**(4):424–9. [PUBMED: 10768530]

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