

Co Dynamic Volar Carpal Translation Interference Promotes Sustained Symptom Resolution, High Report Of Patient Satisfaction & Avoidance Of Surgery

Many authors have reported varying degrees of benefit obtained in patients seeking relief of Carpal Tunnel Syndrome (CTS) with static wrist splints (SWS).

The intent when applying wrist splints is to immobilize the hand and thus reduce inflammation to relieve the pressure in the median nerve tunnel at the wrist.

Often, patients are expected to use a wrist splint to lessen or prevent symptoms while working, therein causing problems with substitution, biomechanics and muscle atrophy, well known in literature. Carpal Tunnel Resection (CTR) has therefore become the most practical option to obtain symptom resolution.

If surgery can be avoided, alternatives to SWS are needed and would necessitate:

- An orthotic with minimal or no activity interference
- Confidence and therefore compliance by the user
- A therapeutic effect which is sited here as interference of volar carpal translation (VCT) and Volar Carpal Translation Force (VCTF) referred to as “Co Dynamic”.

An orthotic specifically designed to achieve multiplanar movement with a therapeutic effect or Co Dynamic interference was applied to 26 hands. Co Dynamic implies assisting all planes of motion rather than impeding. Co Dynamic interference dealt with a lesser-known carpal movement, excessive in CTS patients, VCT that occurs in variable amounts during transmission of forces along the carpus during digital extension or digital flexion.

After being fitted with the Co Dynamic Orthosis, patients were advised to return to all previous levels of work and activities of daily living.

26 subjects reported with average follow-up, 166 days: Range = 54-435 days from date orthotic was administered. Average report of symptom resolution while sustaining all activities of daily living was 69.25%: Range = 2-100%. 23/26 or 89% reported “Very Satisfied” and 92% reported they “Avoided Surgery”. Of subjects included, greater than 50% were EMG median nerve positive at the wrist.

Parameters	EMG Positive	Symptomatic	Total
Very Satisfied	90%	88%	89%
Satisfied	10%	13%	12%
Unsatisfied	-0-%	-0-%	-0-%
Sustained Symptom Resolution Average	75%	65%	69%
Days Follow-Up Average	133 Days	183 Days	166 Days
Avoided Surgery	93%	88%	92%
Age Average	49 Years	51 Years	50 Years
Percentage Female	100%	77%	85%

The level of reported satisfaction indicated the confidence patients placed on the Co Dynamic effect. Sustained symptom resolution remained high though no limitations in activities were advocated. EMG positive subjects fared better than symptomatic group by avoiding surgery and sustaining symptom relief more frequently. Symptom resolution was unprecedented in that patient activity level, range of motion, and productivity were not limited.