



# Resolution of near-syncope with vestibular rehabilitation and spinal manipulative therapy



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## INTRODUCTION

A 39-year-old female presented to the clinic with multiple symptoms including near-syncope that would occur with changes in position, especially when bending forward to pick up a heavy object. Episodes have occurred four to five times per week for the past eight months. She also complained of a “racing heart,” digestive disturbances, fatigue, neck pain and paresthesia in the right hand.

## METHODS

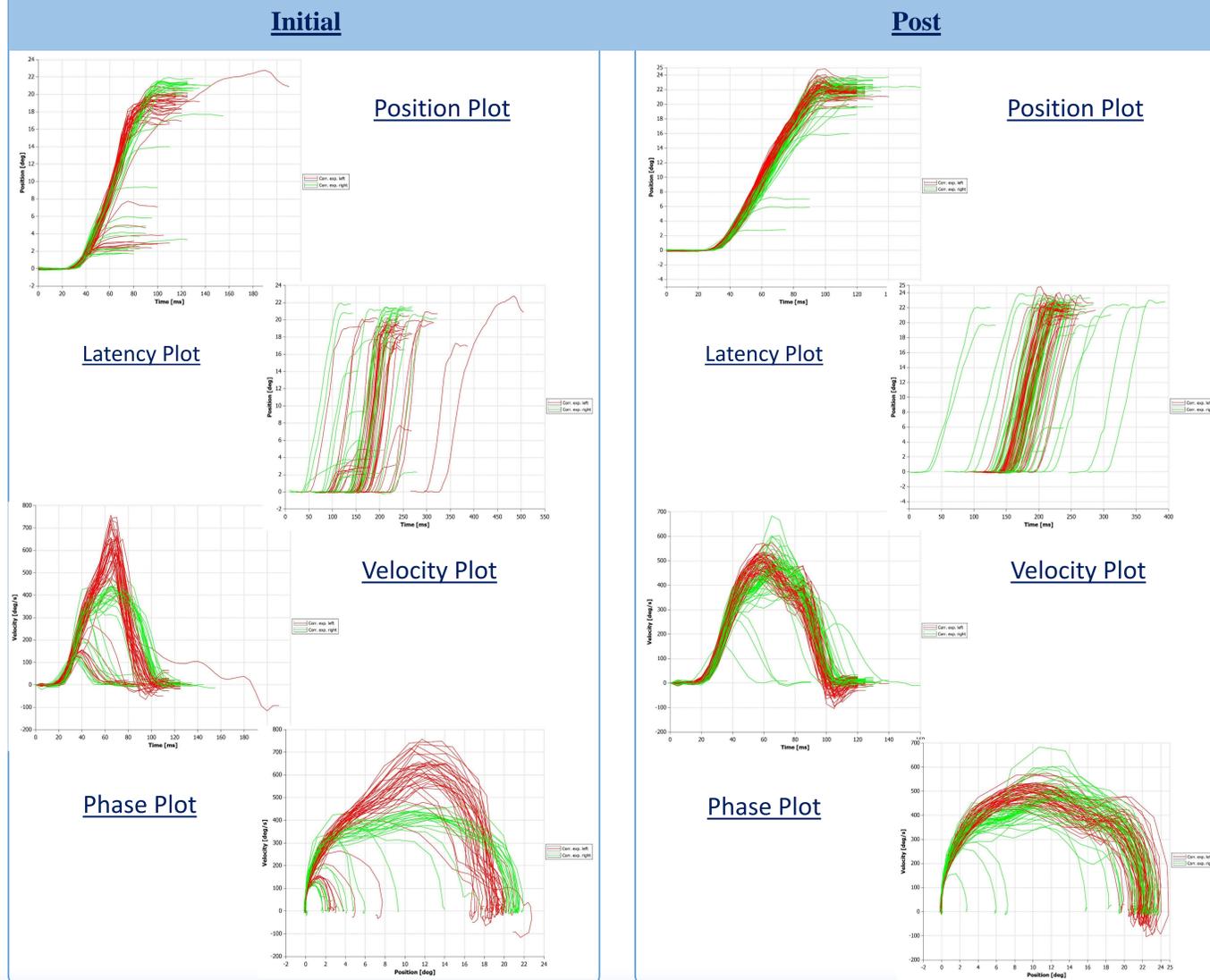
Neurological examination revealed dysmetria with finger-to-nose testing, aberrancies in gaze-holding, saccadic intrusions with pursuits, and abnormal sway patterns in Romberg’s position. Saccadometry revealed dysmetria, decreased velocity to the right and a heteroscedastic distribution. Examination also revealed postural orthostatic tachycardia syndrome (POTS). A program of vestibular rehabilitation (VR) and spinal manipulative therapy (SMT) was initiated to address the near-syncope and POTS. VR included gaze-holding exercises, passive and active vestibular canal exercises and a home program which included gaze-holding exercises that progressed from passive to active vestibular canal stimulation.

## RESULTS

Computerized Dynamic Posturography (initial and post exams are 3 weeks apart; CoP=center of pressure; anterior to posterior reading is listed; minus sign indicates posterior)

STATIC TEST: STABILITY SCORE	SURFACE	INITIAL EXAM	POST EXAM	CoP Initial	CoP Post
Eyes open, head neutral	Firm	90.0%	85.1%	-2.73"	-1.53"
Eyes closed, head neutral	Firm	85.6%	89.0%	-2.69"	-1.10"
Eyes open, head neutral	Perturbed	62.9%	63.7%	-0.07"	0.16"
Eyes closed, head neutral	Perturbed	65.3%	60.6%	-0.21"	0.47"
Eyes closed, head right	Perturbed	62.2%	61.3%	-0.49"	0.60"
Eyes closed, head left	Perturbed	58.6%	74.4%	-0.41"	0.19"
Eyes closed, head flexed	Perturbed	56.0%	76.6%	-0.69"	-0.42"
Eyes closed, head extend	Perturbed	46.7%	45.1%	-0.28"	0.54"

## Saccadometry



## RESULTS

After one treatment the patient reported that the episodes of near-syncope reduced to only one episode the next week. After two weeks, there were no episodes of near-syncope reported. Over a two month period, only one episode has occurred. Heart rate initially increased 30 bpm from supine to standing and three weeks later reduced to a 14 bpm increase. Saccadometry revealed reduction in dysmetria and improvement from a heteroscedastic to a homoscedastic pattern. The near-syncope episodes have resolved as well as the dysautonomia and POTS. It should be noted that the results occurred after three treatments over three weeks.

## CONCLUSIONS

This author recommends further investigation into the treatment of near-syncope and POTS/dysautonomia with vestibular rehabilitation and SMT. Further investigation is also suggested between the relationship of orthostatic conditions and their symptoms with saccadometry and computerized dynamic posturography.

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