



## Enfield Health & Wellness Center

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## Suffield Health & Wellness Center

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162 Mountain Rd, Suite 203  
Suffield, CT 06078

[www.SuffieldHealth.com](http://www.SuffieldHealth.com)

*One-to-One Treatment Always  
with a Licensed Professional*

### Your Therapy Team

Carla Fleck, PTA  
Katie Myers, DPT  
Melissa Doten, MPT  
Jennifer Meier, MPT, CLT, CKTP  
Jennifer Cavanaugh, PTA  
Kevin Sadowski, BSN, RN, DC,  
Cert. MDT

*Two Modern Locations for  
Your Convenience*

### Providing Physical Therapy for:

Orthopedic Complaints  
Post Surgical Rehabilitation  
Work Injuries  
Auto Injuries  
Back Pain  
Neck Pain  
Vertigo / Vestibular Rehab  
Lymphedema  
Headaches  
Functional Capacity Evaluations

### Specially Certified In:

McKenzie Technique  
Lymphedema Management  
Vestibular Therapy  
Gaston Technique  
Mulligan Technique  
Dry Needling  
Kinesio Taping®  
Functional Capacity Evaluations

### Payment

Accepting Medicare and most  
major insurance. Letters of  
protection accepted.

# Association Between Osteoporosis and Benign Paroxysmal Positional Vertigo

The Vestibular Disorders Association estimates that 42% of the adult population reports episodes of dizziness or vertigo to their physicians and that in 85% of those cases vestibular dysfunction causes the patient's problems to be recurrent. When the likely outcome of recurrence is not well-addressed, the occasional dizziness or disequilibrium can lead to injury falls, auto accidents, work accidents, or fear of performing normal activities of daily living. Benign paroxysmal positional vertigo (BPPV) has been described as the most prevalent form of vertigo, with incidence rates estimated as high as 50% in the age 70+ population.<sup>1</sup> There is a growing body of evidence suggesting a correlation between low bone mass density (BMD) and increased problems with BPPV.<sup>2</sup>



BPPV is thought to be caused when otolith debris degenerates within the utricle and migrates into one or more semicircular canals. Theoretically, there could be a connection between the factors of bone turnover and the factors of otolith debris degeneration. Multiple studies now show a risk-adjusted association between low BMD and BPPV; an association between the occurrence of BPPV and osteoporosis; and the ability to predict BPPV by BMD reduction.<sup>3-7</sup> More specifically, Parham and colleagues found an association between a biomarker of bone turnover and BPPV.<sup>5</sup> Patients with BPPV presented with higher amino-terminal propeptide of procollagen type 1 levels. **These associations suggest medications used to treat osteoporosis may also have a protective effect in preventing recurrence of BPPV.**

**The recommended treatment for BPPV is canalith repositioning maneuvers performed by a suitably trained professional, such as the vestibular rehabilitation certified treatment available at the Health & Wellness Centers of Enfield and Suffield (HWCES).**<sup>8</sup> Canalith repositioning maneuvers serve as an efficient means for addressing the immediate problem of cupulolithiasis or canalithiasis. The largest study to date on the type of canalith repositioning maneuvers used at HWCES in the treatment of BPPV follows 965 patients for six years.<sup>9</sup> In this study, Prokopakis and colleagues find that 85% of cases resolve with one treatment, and 98% of cases resolve with two or three treatments. This is a much more efficient outcome and much higher success rate than that achieved by forms of self-treatment which have a success rate of 24% to 58% over the course of a week with higher rates of complications.<sup>10</sup> Generalized studies have measured four-year BPPV recurrence after treatment as high as 27% and 50%, with relapse largely occurring in the first six months.<sup>11</sup> However, Prokopakis and colleagues, evaluating the types of canalith repositioning maneuvers in use at HWCES, find a six-year recurrence rate of only 14%, even among cases that were long-standing prior to treatment. This lower relapse rate is consistent with our experience. These differences in observed success rates and in recurrence rates suggest that there may be important differences between providers in the delivery of canalith repositioning maneuvers. The quality of initial treatment and factors of bone turnover may each affect BPPV recurrence rates.



## Certified in Vestibular Rehabilitation

**Pictured Left: Melissa A. Doten, MPT, LMT, Director of Physical Therapy**

Melissa Doten, MPT, LMT, Director of Physical Therapy, is certified in vestibular rehabilitation through the American Physical Therapy Association and Emory University School of Medicine. This advanced certification verifies expertise in assessment and treatment of vertigo, dizziness, spinning sensation, and other balance complaints.

**Please refer your patients to Enfield Health & Wellness Center**

*Doctor Recommended, Patient Preferred*

## REFERENCES

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2. Shudong Y, Fenye L, Cheng Z, Wang Q. Association between osteoporosis and benign paroxysmal positional vertigo: a systematic review. *BMC Neurology*. 2014; 14:110.
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7. Yamanaka T, Shiota S, Sawai Y, et al. Osteoporosis as a risk factor for the recurrence of benign paroxysmal positional vertigo. *Laryngoscope*. 2013; 123: 2813-2816.
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9. Prokopakis E, Vlastos I, Tsagournisakis M, et al. Canalith repositioning procedures among 965 patients with benign paroxysmal positional vertigo. *Audiol Neurotol*, 2013; 18 (2): 83-88.
10. Helminski J, Zee D, Janssen I, Hain T. Effectiveness of particle repositioning maneuvers in the treatment of benign paroxysmal positional vertigo: a systematic review. *Physical Therapy*. 2010; 90: 663-678.
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