

# Case Study

50 year old female with chief complaints of  
**MUSCLE ACHES** and **ATHRALGIA**



This patient had a secondary diagnosis of Osteopenia with additional symptoms of muscle soreness and aches at night. Medications she had been taking include thyroid replacement T4 and T3 for controlled hypothyroidism. SpectraCell's MicroNutrient Testing revealed functional deficiencies of Vitamin D and Glutathione. **Based upon these deficiencies, she was administered the following daily nutritional supplement protocol:**

## **1) 1,000 IU of Vitamin D3**

**In addition to the above supplements, exercise and healthy living programs were implemented.**

The patient was instructed to work out with weights for 20 minutes 3 times per week as well as daily cardio. It was also recommended that she go out in the daylight for 15 minutes per day.

**Follow up SpectraCell's MicroNutrient Testing was performed 10 months later.**

### **Clinical Outcome:**

**All deficiencies were resolved. Although, the follow up test revealed a new deficiency of Zinc.**

The patient's DEXA Bone Density improved to +0.4 and her muscle aches were resolved.



MicroNutrient  
Testing

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