

SpineScottsdale  
Physical Therapy



Center for  
SpineHealth

## The Arizona Quarterly Spine Official Newsletter of SpineScottsdale Physical Therapy and the Center for SpineHealth

### A Note from Shane

I recently became certified in the physical therapy management of patients with osteoporosis utilizing the Meeks Method. The Meeks Method is a comprehensive 12-step movement and exercise program for the prevention and management of osteoporosis and the musculoskeletal changes commonly associated with the aging process. One modality used in our osteoporosis program is a low-intensity vibration plate called livMD.



Our osteoporosis program will be featured on Doctor Talk, a healthcare radio show, on October 4<sup>th</sup>, 2014. "Doctor Talk" is a weekly interactive radio show that takes an in-depth look at YOUR healthcare, YOUR well-being, and YOUR life. Doctor Talk enables individuals to get the latest information in healthcare and find the answers to their questions from nationally recognized physicians. Join Co-hosts, Dr. Barclay-White, a board-certified radiologist who specializes in breast imaging and Dr. Bordinko, a Board Certified Doctor of Internal Medicine and Personal Physician as they host nationally known medical experts as guest speakers to take an in-depth look at our health as a nation and the issues that affect us all. Tune in Saturday October 4th at 1:00pm to learn more about our osteoporosis program on "Doctor Talk" on Money Radio 1510am / 99.3fm.

I would like to share with you more information about this insurance covered SpineOsteoporosis program and low intensity vibration in this edition of **The Arizona Quarterly Spine!**



### The Meeks Method of Osteoporosis Management



SpineOsteoporosis

Q3 2014

## The Meeks Method: About Sara Meeks



### Sara M. Meeks, P.T., M.S., G.C.S., K.Y.T.

- Has been a licensed, practicing Physical Therapist since 1962,
- Has specialized in the unique management implications of persons with osteopenia and osteoporosis since 1984, and
- Has developed an evidenced-based, easy, effective, comprehensive, site-specific, 12-part program for the conservative management of persons with osteopenia, osteoporosis, postural problems and back pain.
- In addition, she has been a certified Kripalu Yoga Teacher (K.Y.T.) since 1984 and has modified Yoga for safety in movement for people with bone health concerns.

### SPECIALTY EXPERIENCE:

“Since 1984 I have been specializing in the management of persons with osteoporosis and osteopenia. Since seeing my first patient with known osteoporosis and an acute compression fracture in 1984 and developing a successful program for that patient with no clinical pathway or treatment protocol on which to rely, I have spent my entire career focusing on the physical therapy management of people with osteoporosis. In 1996-1997, I was the director of a physical therapy clinic in which every patient I saw was diagnosed with the conditions of osteopenia and/or osteoporosis. Osteopenia and osteoporosis were the PRIMARY diagnoses of my patient population. These patients also had many other conditions commonly seen in a physical therapy population; however, they were seeing me because of my program for osteoporosis. Focusing on the condition in this way allowed me to learn more about the condition than I would ever have had an opportunity otherwise. It was during this time that I further developed and refined my comprehensive management program (The Meeks Method.)”



## How is The Meeks Method different from other programs? Its essential aspects are five-fold.

### 1. Safety

For persons with osteoporosis, even in advanced stages, all of the exercises, if done according to the directions, are safe and will minimize your risk of fracture. Except where noted with certain exercises, they are safe for most other back problems as well. There is nothing that would put you at risk for spinal or rib fracture—no sit-ups, abdominal crunches, straight leg raises, toe touches or knee-to-chest movements. Research has shown that these forward-bending movements can result in a significant increase in fracture risk for persons with fragile bones.

Unfortunately, the prevailing thought seems to be that any exercise is “ok”, and that doing something is better than doing nothing, as long as people are up and moving. For persons with osteoporosis, however, it is nearly better to do nothing than to do the wrong thing. When it comes to exercise, not all of it is safe and some of it can actually be dangerous.

### 2. Reversal of the Patterns of Postural Changes.

This entire program is based on preventing, arresting, and/or reversing these all-too-common changes in posture. When the body is better aligned, the effect of muscle contraction on the bone and weight-bearing forces going through the bones will be optimized.

### 3. Exercises are “site-specific.”

They have been designed to target areas of the body where strengthening and flexibility are most needed...to help prevent both the fractures that can occur with osteoporosis and the postural changes that develop as people age. Of particular importance is strengthening of the back extensor muscles.

### 4. Focus on the bones, in movement and exercise.

The bones form the foundation for movement and are all too often taken for granted until a devastating injury occurs. Learning to move with consideration for the bones can change movement in profound ways.

### 5. Starts at a low level.

This enables just about anyone to begin the program. Simple movements build on complexity and difficulty.



**How does low intensity vibration ( LivMD) benefit bone cells?**

**Mechanical signals effect growth and renewal of tissues**

The human body is designed to withstand many forces in daily life, and can adapt to differing loads generated during normal activity. These loads can be large, such as those generated while running, or they can be quite small, such as the continual tiny and high frequency signals between bones and muscles that we never have to think about. These all have a direct effect upon the growth and renewal of musculoskeletal tissues. This is very complex and involves networks of cells that are sensitive to chemical, biological and mechanical signals. We believe tissue renewal is achieved in part, by stimulation of cells within the bone marrow. The bone marrow is a reservoir of adult stem cells, which then change into other types of cells such as bone, muscle or fat during their lifetime.

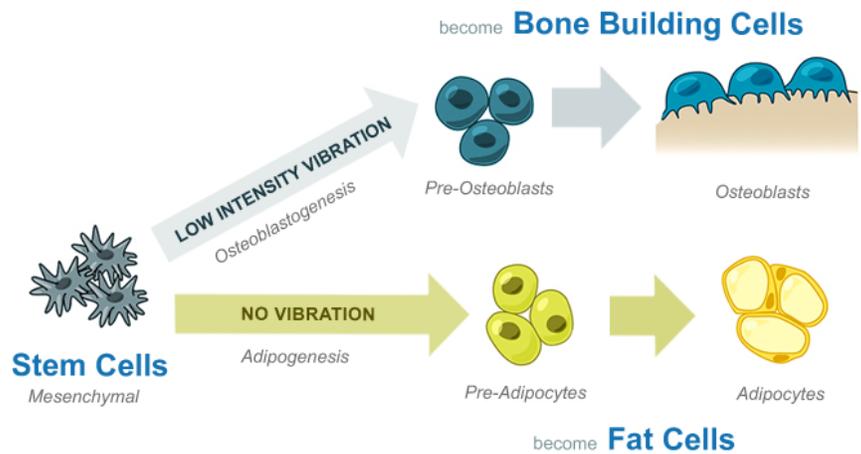


**Tissues decline with age**

When functional loading is removed from a human, for example with increasing age and more sedentary lifestyle, the bone and muscle tissues start to decline. We believe part of the reason for the decline is the reduction of mechanical signaling across the full range of size and frequency. The LIV signal is similar to fast firing muscle contractions and we know that these fast muscle contractions decline with age. The LIV signal directly targets cells that would normally respond to high frequency signals, that have now been lost.

**Stimulation of Adult Stem Cells**

LIV signals stimulate cell behavior within the bone marrow and encourage growth in the surrounding musculoskeletal tissues. Recent scientific experiments have shown that LIV stimulation increases bone cells and leads to a reduction in fat cells. This is illustrated in drawing below which shows the increased activity of stem cells (Mesenchymal Stem Cells) in becoming bone building cells (Osteoblasts) and not fat cells (Adipocytes).



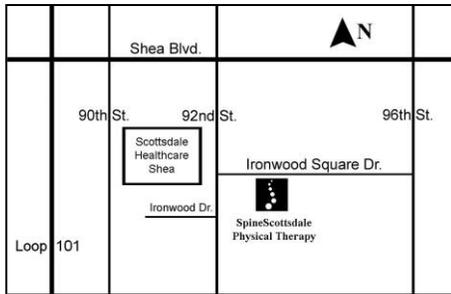
**25 Years of Research**

Our understanding on the role of mechanical signals and their effect on tissues has been acquired over 25 years and through research funded by government and other agencies. Over 110 peer-reviewed publications describe the basic science and the clinical efficacy of low-intensity vibration. Visit the Science and Research section of the website which explains the science in more detail



*Moving in the Right Direction!*

*Bridging the Gap Between SpineRehabilitation and SpineHealth!*



Shane Sullivan  
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