



Tuesday, April 15, 2008

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Osteoporosis, Exercise and the Dentist

By Stacy V. Cole, D.D.S.

Dr. Griff Murphey recently wrote an article in the Twelfth Night about biphosphonate induced osteonecrosis (BON) and recently Dr. Bob Peak wrote a response on the same subject. It was a well-written exposition of the malady and the questions and difficulties of treatment accompanying the problem. So, what do we do with this sobering information in our real-world practices? Here are some suggestions:

First, for those honest ones who were thinking, "what is biphosphonate?" I'll give you a short review. The rest of you can skip to the next section.

Biphosphonates are a family of chemicals infused intravenously to treat cancers such as metastatic breast cancer, prostate cancer and multiple myeloma. Oral biphosphonates (Fosamax, Zometa, etc.) are prescribed for osteoporosis.

The biphosphonates integrate with the hydroxyapatite in the bone, then inhibit osteoclast formation, resulting in inhibition of bone resorption. This seems good. Osteoclasts resorb the mineral matrix of bone and release morphogenic protein and insulin-like growth factors, which in turn induce local stem cells to differentiate into osteoblasts and form new bone.

What if there are no osteoclasts to function in this cycle of bone turnover? If the capillary network in the bone is not maintained, the result is a vascular

necrosis of the bone. That is bad.

Since biphosphonates are not metabolized, they can persist for months, sometimes years, after the use of the drug has been discontinued. The necrotic lesions look like an area of "dead" bone. They are usually irregular shaped and can be around teeth or in edentulous areas. The size of the lesions seems to increase with time and amount of biphosphonates received. They can be maxillary or mandibular, painful or non-painful, small or large, exposed bone or concealed cavitation, with or without soft tissue infection. Sometimes there is numbness or altered sensation. It may or may not show upon an x-ray. The huge ones eventually show up radiographically.

Since 30 to 50 percent of the bone has to be destroyed before the density difference will be distinguishable, the pathology is understandably difficult to recognize early. This is compounded by the fact that the biphosphonate's integrate into the bone and this combination appears denser radiographically and even produces a higher bone mineral density (BMD) test score. Now, what can we do?

Consider who osteoporosis strikes.

It strikes some of our patients or clients, their family and loved ones and even a few dentists. If biphosphonates can have such deleterious results, then how do we combat osteoporosis? After all, the osteoporotic alveolus recedes

faster in the midst of periodontal disease, has slower healing after surgery, less density to support implants and is more likely to fracture with trauma -- including extractions. So, keep "heads up" when you have a patient or client on chemotherapy or one taking medication for osteoporosis.

Focus on prevention and have a viable alternative to medication.

This works for you as well as your patients or clients. The undisputed best way to prevent or reverse osteoporosis is weight-bearing exercise. That's right. Lift a few weights.

You don't have to train to be an Olympic athlete; just lift some weight. What about squatting to knee level 10 times? Sounds too easy? Ask your patients or clients, how many times they did that last month? Remember, something is better than nothing.

To be effective, an exercise program must have two features. First, it must be intense enough to challenge the system. Second, it must not be so intense that one dreads to do it the next day.

Here is a simple but effective regimen: three exercises, one lower body, and two upper body.

1. Do squats. They will work all your lower body muscles. If five repetitions are too easy, do six. If 10 are too easy, pick up a couple of bottles of water and use them.

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Tuition: \$800 Deposit: \$400

TKM®: Self Help

Date: May. 2-3

Location: Greater Seattle, WA area

Instructor: Linda Kane, ND

Tuition: \$300 Deposit: \$150

TKM®: EMT &/or Self Help

Date: May. 29-31

Location: Westminster, MA

Instructor: Derenda Pitzele

Tuition: \$425 Deposit: \$200

TKM®: Level 5 and 6

Date: June 4 - 7 (4 day)

Location: Cleveland, OH

Instructor: Glenn King, PhD, RD, CN

Tuition: \$700 Deposit: \$350

TKM®: Level 5 and 6

Date: June 25 - 28 (4 day)

Location: Carrollton, TX

Instructor: Glenn King, PhD, RD, CN

Tuition: \$700 Deposit: \$350

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Instructor: Glenn King, PhD, RD, CN

Tuition: \$400 Deposit: \$200

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www.kinginstitute.org

You may also register online.

2. Now, lie on your back with a can of beans or something similar in each hand and an act like you are hugging a tree. This is a Fly exercise. This strengthens the chest and shoulders. If canned beans gets too easy, get 5 pound weights or fill up some big laundry soap jugs with water. I'm telling you, this stuff doesn't have to cost much money.

3. Now, for the third exercise put your left knee and your left palm on a chair seat (or piano bench, etc.) and pick up off the floor a bucket (or a soap jug or a weight). Pull it up to your chest without jerking. It looks like you are pulling something out of the ground. Then do the other hand. This strengthens the back.

So, now you have addressed the lower body, and both sides of the upper body. The added physical stress is a physiologically demands that the bones get denser. All the bones get denser, not just the legs and arms. That includes the jaw bones.

To accommodate the increased assimilation of calcium for the bones, it helps to get sunlight for Vitamin D. This can be done by exposing the retina to the full spectrum of light. Don't look at the sun. Just be outside without glasses or contacts. They filter out some of the UV wavelengths. The stimulation ultimately also affects the hypothalamus and influences emotion and the circadian rhythms – the "night/day clock." Exposure of the skin to sunlight is also beneficial. Don't bake. Just a few minutes is all that is needed. Use good judgment. Some full spectrum skin exposure aids in Vitamin D production, which is necessary to build strong bones.

If you take supplemental calcium, take calcium citrate plus magnesium. The citrate form is more readily absorbed and the magnesium is necessary for absorption.

Back to osteoporosis, do you know anyone who has an aunt, parent or friend that slipped and fell and broke a hip, went to the hospital, had surgery, and died there or shortly after? The

problem is not the lack of Fosamax. It is the lack of strength and agility. The person didn't have the agility to avoid the fall or the strength to recover when she slipped. Take that to heart.

There are a ton of patients or clients out there that think you are the only one in the world that can take care of them. They trust you implicitly. Don't leave them. Don't get hurt and go to the hospital with all those sick people. You might catch something. Your patients or clients need you around to take care of them and their families. And your loved ones need you and your wisdom more than they know. Eat right. Get some rest. Get a little exercise. Dance a little. Get strong and agile, and don't get osteoporosis. ▼

References:

1. Berthold, M. "Osteonecrosis Warning," ADA News, May 16, 2005.
2. "ADRAC Report," MJA, Vol. 182, and. No. 8, pp 413-418. April 18, 2005.
3. www.fosamax.com

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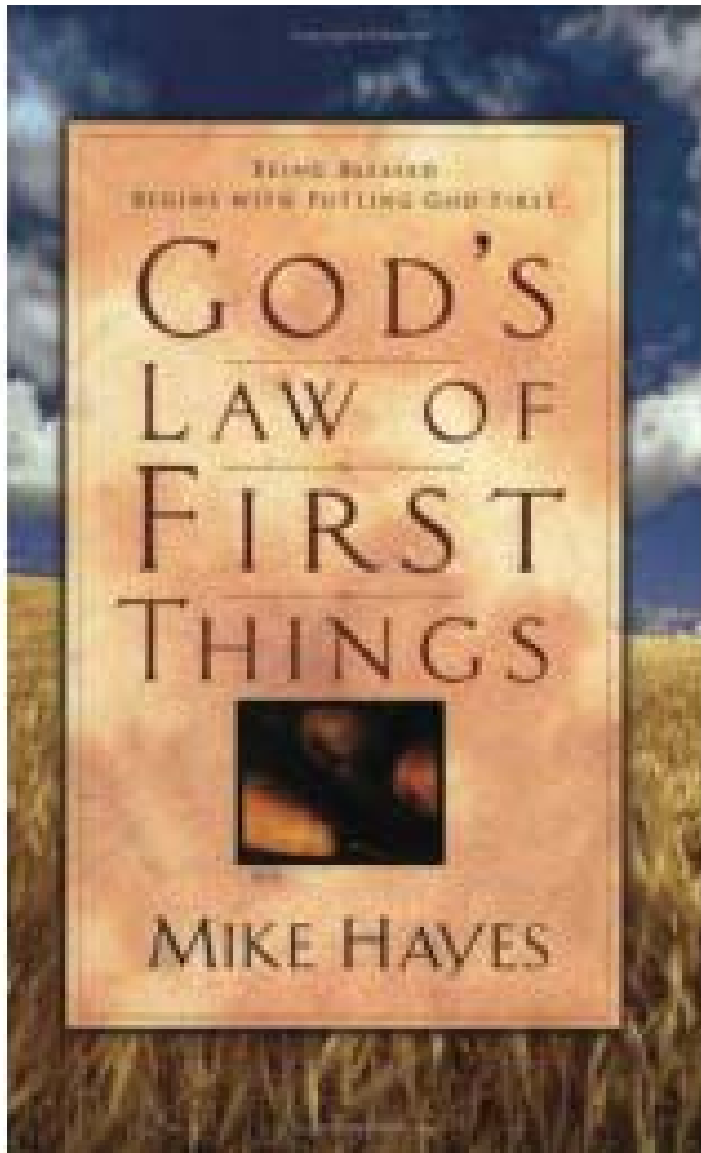
God's Law of First Things

By Mike Hayes

I read this book by Pastor Mike Hayes several years ago and it changed everything in my life by seeing things I knew, but was able to see in a new way. I've heard from many people across the USA of how using the principles explained in this book, from various countries and various countries, has totally changed their ministries, lives as well as their

The Bible is God's guidebook for us. The principles affect everyone. *God's Law of First Things* reveals how and why God opens windows of blessings in your life. When you put God first in everything you do, and you begin to follow His plan for your life, you will find that your path becomes clearer and that doors of opportunity open more readily. Although finances are a practical place to start, God's law of first things goes far beyond money. It is an issue of the heart. Dive into the outpouring of blessings available when God is first.

This book is small, but not to be underestimated. The principles presented in this pre-to-understand book are really for everyone. I highly recommend this book as one of the top few books that anyone can greatly benefit from as well as a guidebook for your life, ministry, church, business, marriage and family.



principles I thought I to see and apply in heard from many peo- and various countries principles explained God's Word, has to- lives as well as their

is God's guidebook principles affect everyone. *Things* reveals how windows of blessings you put God first in and you begin to fol- your life, you will find comes clearer and that ty open more readily. are a practical place of first things goes far is an issue of the heart. pouring of blessings God is first.

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