

## The Osteoporotic Fracture and What We Are Not Doing About It

ELLIOTT N. SCHWARTZ, M.D. AND RISA KAGAN, M.D., CO-MEDICAL DIRECTORS FOR FORE

Fractures are the end-stage of osteoporosis, not the start of the process.

An osteoporotic fracture is a fracture that occurs with the trauma equivalent to that generated by a fall from a standing height or lower. At age 50, a caucasian woman's lifetime risk for one of the three main osteoporotic fractures-spine, hip and wrist-is estimated at 40 percent; in men, it is 13 percent. If other

osteoporotic fractures (e.g., shoulder, pelvis, or clavicle) are taken into consideration, a woman's risk exceeds 50 percent. Out of over the 6 million fractures that occur in the U.S. each year, between 1.5 and 2 million are due to osteoporosis. While advances in bone densitometry now allow us to predict fracture risk, better understanding of other independent risk factors-such as increasing age, high bone turnover, and

falls-may improve our ability to more precisely define those at risk of future fractures. A new concept is emerging: the importance of prevalent (or past) fractures and their very powerful ability to predict increased risk of future fracture. Individuals who fracture will often suffer more than one fracture.<sup>1</sup>

A consensus has gradually formed that a "no-brainer" of osteoporosis therapy is to treat individuals with prevalent fractures. This is because we now understand that fracture risk is a continuum along the curve from increased to decreased bone density, and there is no abrupt cut-off above or below which treatment should be withheld or given for individuals with a prevalent fracture.

Several studies show that individuals with osteoporosis and fractures are both under-evaluated and



*Which of these 3 women are at risk for Osteoporosis?*

*Answer on page 4.*

CONTINUED ON PAGE 2

### INSIDE

#### OSTEOPOROSIS AWARENESS MONTH & OTHER EVENTS:

Find out about these fun and educational events for the whole family.

PAGE 3

#### PLANNED GIVING:

How you can leave your legacy at FORE

PAGE 3

#### ASK THE NUTRITIONIST:

How is Dieting among Teens Affecting their Bones?

PAGE 4

#### PREVENTING FALLS:

A statewide effort

PAGE 4

#### TEENS & BONES:

Little changes can make a big difference.

PAGE 5

## FORE GOES NATIONAL:

### Creating Prevention Messages for Post-Menopausal Women

This year we embark on an ambitious task to create a national action plan to raise osteoporosis awareness among post-menopausal women. The U.S. Administration on Aging awarded us this exciting and challenging opportunity through a \$100,000 grant last fall.

An effective prevention strategy involves a systemic health care change, targeting not only the consumers, but also health care professionals and policy makers. Even if a woman is educated about her osteoporosis risks, she must be able to rely on the health care system to create access to further assessment and treatment options. We know that one size does not fit all—we will be designing a plan for culturally appropriate approaches to educating women. We are lucky to have the diversity of the Bay Area where we can pilot our messages and strategies.

To develop the action plan, we are hosting two Summits, convening a group of experts from across the country, including physicians, community leaders, political representatives, and marketing professionals.

In our fight to reduce the prevalence of this debilitating disease, the opportunity to spread life-changing messages to women throughout the nation is becoming a reality.



Kathleen M. Cody

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CONTINUED FROM PAGE 1

under-treated. In a retrospective study of 1,162 postmenopausal women with forearm fractures, it was found that there was no increase in treatment rates in three successive two-year time periods.<sup>2</sup>

The story is much the same for hip fracture patients. One study found that most hip fracture patients receive no evaluation or treatment for their underlying disease.<sup>3</sup>

Evaluation and treatment of vertebral fractures is similarly dismal. In a study of unrecognized vertebral fractures, chest x-rays obtained for women aged 60 and older were reviewed, and of 943 women, 130 had a fracture present; only 7 percent of the individuals received treatment for osteoporosis.<sup>4</sup>

Despite the accumulated evidence showing the importance of prevalent fractures in predicting future fracture risk and in predicting a better

response to pharmaceutical intervention, most physicians do not take the diagnostic or therapeutic steps that the presence of prevalent or incident fractures implies. Now is the time for the osteoporotic fracture to assume its rightful importance and signal an appropriate evaluation and treatment. ■

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#### References:

<sup>1</sup> Chrischilles E et al. A model of lifetime osteoporosis impact. *Arch Int Med* 1991; 151: 2026-2032

<sup>2</sup> Freedman KB et al. Treatment of osteoporosis: are physicians missing an opportunity. *J Bone Joint Surg* 200; 82A: 1063-5.

<sup>3</sup> Broy S et al. Are physicians treating osteoporosis after hip fracture? *J Bone Miner Res* 2000; 15(S1): S141.

<sup>4</sup> Kamel, HK et al. Failure to diagnose and treat osteoporosis in elderly patients hospitalized with hip fractures. *Amer J Med*



## FORE Manager Receives International Award

At a February conference in Los Angeles, the International Society for Clinical Densitometry presented a Best Technical Abstract of 2003 award to FORE's Bone Density Testing Manager Dee Steinberg.

Ms. Steinberg conducted a study comparing spine scan auto analysis in DXA machines made by competing manufacturers, tracking how often it was necessary for a technician to intervene to adjust the scan. The results of her

abstract provide health care professionals with vital information on the accuracy of each machine, and confirms the importance of knowledgeable and well-trained technicians and physicians.

## Osteoporosis Awareness Month and Other Upcoming Events

### MAY 10

**ASK ANYTHING** The ultimate experts on all things female! A professional panel answers your questions about young women's diet, fitness and health. Featured Speakers are Dr. Risa Kagan, MD, Michele R. Vivas, MS, RD, and Marianne Gibson, MPT

Saturday, May 10, 2003 at 11:00 am-1:30 pm, Box Lunches, 12:15 program  
Head Royce School, Oakland For tickets, call 510-832-2663 x38

### MAY 11

**OSTEOPOROSIS AWARENESS DAY AT NETWORK ASSOCIATES COLISEUM WITH FORE** Treat your loved ones to a special Mother's Day behind the first base line **Oakland A's vs. New York Yankees**

Mother's Day: Sunday, May 11, 2003 1:05 p.m. A's Mother's Day Make-Up Bag for the first 7500 women 15 & older! Tickets are \$20--hot dog, soda & chips included!

All seats are in Section 207 For tickets, call 510-832-2663 x14



### MAY 22

#### M.O.M. - MAKE OSTEOPOROSIS MATTER

A Recipe for Healthy Bones Inviting women 55+ and their families to learn how to maintain bone strength & prevent osteoporosis. **Free** bone screenings, **free** information & **free** lunch at the The Fairmont Hotel in San Francisco. Space is limited!

Thursday, May 22, 2003 12 p.m.  
For reservations, call toll-free 866-737-1858

### JULY 31

**Dr. Ethel Siris,**  
Columbia Presbyterian  
Medical Center

### AUGUST 22 & DECEMBER 5

**Centers of Excellence,**  
A Mini-Fellowship in  
Osteoporosis, an all-day  
CME credit opportunity for  
health care professionals

### 2003 Bone & Mineral Club:

A series of  
professional lectures  
(cme credit available)

### OCTOBER 1

**Dr. Cliff Rosen,**  
Director of the Maine Center  
for Osteoporosis Research

### NOVEMBER 11

**Dr. Eric Orwoll,**  
Director of General  
Clinical Research  
Center at Oregon  
Health Services University

## "A Heritage of Caring"

MICHAEL WEINTRAUB, FORE BOARD MEMBER

Do you know the most common reason given when people are asked why they don't volunteer an hour or two a month for their favorite charity?

"I was never asked!"

Well now, we at FORE are going to fix that, by asking you to volunteer to become a member of our new planned giving support group...the FORE "Heritage Club." New this year, the Heritage Club is made up of those people who wish to support our educational crusade, by making a deferred gift and attending an occasional event in support of the organization. A deferred gift is a modest bequest mention in your Will to support

FORE's vital and ongoing educational and research programs. And when we say "modest" we really mean it! If you are able to devote just 1% of your estate to FORE you become an automatic member of our Heritage Club. (Don't worry if you don't have a Will, we can help you get a simple Will at no charge, if you make a gift.)

In the next newsletter I am going to describe more of the benefits you will receive when you join, but for now, I have a special request... We know that some of you have already mentioned the organization in your wills but have not informed us. How can we thank you properly if we don't know who you are?

Please give me a call, Mike Weintraub at 925-997-2265, to let me know if you have already made this most important gesture of support, and watch this space to learn more about this important new volunteer opportunity. ■

# ASK THE NUTRITIONIST

## How is Dieting Among Girls Affecting Bone Health?

When you are born you join the human race; but another race is going on—the race to get all the calcium you need while your bones are growing and getting stronger. I tell girls that they have until 30 years old to max out their bone density, which will have a lifelong effect on osteoporosis prevention.

Unfortunately girls are dieting at a younger age than ever before. Many college age females report that they went on their first diet around age 13 or 14. Some surveys have shown that girls are playing around with dieting as early as 12. Many approaches to changing eating habits may be healthy and effective for adults, but can be dangerous to the bone health of girls. Since the late 1990's the most popular diet books have focused on an anti-carbohydrate system, and the message is that "carbs are bad for you and make you fat." How does this affect calcium intake? Our young women and girls are not consuming enough calcium to help them build strong bones because they are avoiding foods that provide a good source of calcium.

Just this week, I had a conversation with a 16 year-old girl who said "Too bad cereal is so bad for you or I would have that for breakfast." I asked her "What makes you think that?!" She went on to tell me that "Carbs turn to sugar and sugar makes you fat." Her mom was on a low-

carb diet and was now eating high protein bars in order to increase her protein intake. The daughter switched from her cereal and milk routine to the high protein bars as well. This teenager, as with the majority of teens today, has a diet already low in calcium. This change in her diet actually eliminated the only source of milk she was getting. To compound my concern, when I suggested chocolate milk as part of a mid afternoon snack, she asked "Isn't there too much sugar in that?"

We need to send the message to young girls that eating a certain food will not make them fat. What I tell them is "If someone overeats, it does not matter where the extra calories came from, the calories were – extra!" If someone keeps that behavior up for long enough they may begin to gain weight. But we should not eliminate any one food or food group.

If my patients tell me they don't have time for breakfast I suggest they carry a yogurt along with a granola bar to eat during a mid-morning break. Yogurt can stay out of the refrigerator and be perfectly fine for a break or lunch. If you like it cold you can freeze it.

Putting your bones at risk is not a healthy way to manage weight. Staying active and eating a balanced diet is the key to a healthy body. ■

**MICHELE R. VIVAS, MS, RD**

CLINICAL NUTRITIONIST, EXERCISE PHYSIOLOGIST  
AND REGISTERED DIETICIAN IN PRIVATE PRACTICE.

## California Blueprint for Fall Prevention

California health care leaders recently convened in Sacramento to address the growing impact of falls among older adults. The conference goal was to develop the basis for a statewide strategic plan to reduce the risk of serious falls in older Californians.

The California Blueprint for Fall Prevention is a critical step because fall statistics are staggering:

### **Mortality:**

Falls were the leading nonfatal injury and the third leading fatal injury among older Californians in the year 2000: on average, two older adults die every day from fall-related injuries.

### **Disability:**

About 30,000 older Californians suffer hip fractures each year (an end result of osteoporosis) most of them due to falls; half of all all-related injuries that require hospitalization result in the survivor being discharged to a

nursing home or other long term care facility.

### **Economic:**

The average medical bill in California for a hip fracture is \$12,500, totaling \$375 million annually. This does not include the additional costs of the long term disability and premature mortality rates that often result from fractures.

Conference participants included Beverley Tracewell, Director of Research for FORE and a diverse group of stakeholders from aging and

public health programs, legislators, policy analysts, civic and advocacy groups, consumers, voluntary health organizations. Ms. Tracewell said "The enthusiasm of the participants in identifying new approaches to falls prevention was impressive, and the conference very timely – fall prevention needs to be a nationwide priority". ■

Answer to question on front page: "All of them. Osteoporosis prevention is a lifelong process."

# Modest lifestyle changes in teens can translate to major health gains

LAURA K. BACHRACH, M.D.,  
PROFESSOR OF PEDIATRICS, DIVISION OF ENDOCRINOLOGY,  
STANFORD UNIVERSITY SCHOOL OF MEDICINE

Childhood and adolescence are critical periods for fostering bone strength. Peak bone mass (PBM) achieved by early adulthood is a key determinant of the lifetime risk of osteoporosis. Genetic factors account for an estimated 60-80% of the variability in PBM; diet, physical activity, and hormonal status account for the remaining 40%.

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## *Substitution of soft drinks and juice for milk has caused the biggest fall in calcium intake.*

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Adequate calcium intake is a key component in a bone health program. Unfortunately, nearly 9 out of 10 teenage girls and 7 out of 10 teen boys fail to get the recommended amount of calcium in their diet. Substitution of soft drinks and juice for milk has caused the biggest fall in calcium intake. In the past two decades, consumption of milk has declined by 40% while soft drink intake has more than doubled. Adequate vitamin D is

also needed to efficiently absorb calcium from the digestive tract.

A high salt diet also causes loss of calcium. Unfortunately, the fast foods and prepared foods that are staples in the diet of young people are often high in sodium. In healthy teens, body weight and pubertal development are the most consistent predictors of bone mineral. Yet the fear of fat and obsession with thinness among pre-teen and teenage girls frequently translates into diets that fail to meet their caloric, calcium and protein needs. On the other hand, obesity may also be a risk factor for poor bone health.

Moderate levels of weight-bearing exercise help foster bone strength. Unfortunately, children in general become far less active as they pass through adolescence. Seventy percent of children at age 12 report participation in vigorous physical activity. By age 21, this figure falls to 42 percent for men and a dismal 30 percent for women which also places them at risk for low bone mass and fractures.

CONTINUED ON PAGE 6

## Seeking Women Who Have Reached Menopause

You, your mother, or other women you know may be eligible for a Foundation for Osteoporosis Research & Education study that addresses pressing health concerns for all women such as:

- menopause
- osteoporosis
- hormone replacement therapy

Help the fight against diseases and health problems that affect women worldwide by participating in one of our studies. Eligible participants may receive at no cost:

- free examinations
- compensation for time & travel
- our quarterly newsletter

All study related procedures and exams are performed under the supervision of FORE's co-medical directors Risa Kagan, MD and Elliott N. Schwartz, MD. To find out more, please call the Research Department 510-832-2663 x 55 or contact us via e mail: [Studies@fore.org](mailto:Studies@fore.org)

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## Modest lifestyle changes in teens can translate to major health gains

CONTINUED FROM PAGE 5

The challenge lies in delivering this message about nutrition for bone health to children and their parents. For many teens, the risks of osteoporosis may seem as distant and irrelevant as retirement planning.

Pediatricians need to reinforce the need for calcium throughout childhood. Health education curriculums in our middle and high schools should include the issue of bone health. Involving teens in this process as peer

teachers has proven to be an effective approach to modify behavior in one study. Studies indicate that even a 5% gain in bone mass can reduce the risk of osteoporosis by 40%. Thus, even modest success in fostering lifestyle changes in today's adolescents may translate to major health gains in the future. ■

For more information, Laura K. Bachrach, M.D. can be reached at [lkbach@leland.stanford.edu](mailto:lkbach@leland.stanford.edu).

Age	Milligrams (mg)/day
1-3 years	500
4-8 years	800
9-18 years	1300
19-50 years	1000
51+	1200
Too Much	2500

Recommendations for daily calcium intake for every age group

### FORE Front

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