



PERSONAL BIOGRAPHY

ETHEL SIRIS, MD

Ethel S. Siris, MD, is the Madeline C. Stabile Professor of Clinical Medicine in the Department of Medicine, College of Physicians and Surgeons of Columbia University, and the Director of the Toni Stabile Osteoporosis Center of the Columbia University Medical Center, New York-Presbyterian Hospital, all in New York, New York. She is a graduate of Radcliffe College, Harvard University, and received her medical degree from the College of Physicians and Surgeons of Columbia University. An endocrinologist, she has worked as a clinician, clinical investigator and medical educator in the area of metabolic bone diseases, including osteoporosis and Paget's disease of bone. In particular, she has worked extensively with the class of bisphosphonate compounds in these disorders as well as with selective estrogen receptor modulators (SERMS) in osteoporosis. Dr. Siris is also the Medical Director of NORA, the National Osteoporosis Risk Assessment, a public health initiative and longitudinal study of osteoporosis that includes over 200,000 postmenopausal women in the US.



Dr. Siris is currently President of the National Osteoporosis Foundation and is a member of the Board of Trustees of the International Osteoporosis Foundation. She is also a member and former vice chair of the Board of Directors of the Paget Foundation for Paget's Disease of Bone and Related Disorders. She has previously served on the Endocrinologic and Metabolic Drugs Advisory Committee of the US Food and Drug Administration and on the Council of the American Society for Bone and Mineral Research. She has published widely in the medical literature, is co-editor of the book, *The Bone and Mineral Manual*, and is a member of the editorial board of the *Journal of Bone and Mineral Research*. In September, 2003, she was honored with the North American Menopause Society/Eli Lilly and Company Award for Innovations in Osteoporosis.

**OSTEOPOROSIS FACT SHEET
UNITED STATES
Dr. ETHEL SIRIS**

Prevalence

- Osteoporosis is a major public health threat for an estimated 44 million Americans, or 55 percent of the people 50 years of age and older. In the U.S. today, 10 million individuals are estimated to already have the disease and almost 34 million more are estimated to have low bone mass, placing them at increased risk for osteoporosis.
- Eighty percent of those affected by osteoporosis are women. Twenty percent of those affected by osteoporosis are men.
- Significant risk has been reported in people of all ethnic backgrounds.
- While osteoporosis is often thought of as an older person's disease, it can strike at any age.

Fractures

- One in two women and one in four men over age 50 will have an osteoporosis-related fracture in her/his remaining lifetimes.
- Osteoporosis is responsible for more than 1.5 million fractures annually. These include 300,000 hip fractures, 250,000 wrist fractures, 700,000 vertebral fractures and 300,000 fractures at other sites.
- A woman's risk of hip fracture is equal to her combined risk of breast, uterine and ovarian cancer. Women with a hip fracture are at a four-fold greater risk of a second one.
- Men over the age of 50 have a greater risk of suffering an osteoporosis-related fracture than developing prostate cancer. Each year, 80,000 men suffer a hip fracture and are nearly twice as likely as women the same age to die in the first year after breaking a hip.
- The consequences of osteoporosis are devastating and painful. An average of 24 percent of hip fracture patients aged 50 and over die in the year following their fracture.
- The most typical sites of fractures related to osteoporosis are the hip, spine, wrist and ribs, although the disease can affect any bone in the body

Cost

- The estimated national direct expenditures (hospitals and nursing homes) for osteoporotic hip fractures was \$18 billion dollars in 2002, and the cost is rising.
- This cost to the healthcare system associated with osteoporotic fractures is expected to exceed \$60 billion by the year 2030.
- An increase in BMD testing and osteoporosis treatment was associated with a decrease in hip fracture incidence.

Detection

- Specialized tests called bone mineral density (BMD) tests can measure bone density in various sites of the body. Medicare reimburses for BMD testing every two years.
- An increase in BMD testing and osteoporosis treatment was associated with a decrease in hip fracture incidence.

Prevention

- Osteoporosis is not an inevitable part of aging. Building a strong skeleton during childhood, adolescence and young adulthood may help individuals avoid osteoporosis later in life. There are five steps, which together can optimize bone health and help prevent osteoporosis. They are:
 - _ A balanced diet rich in calcium and vitamin D
 - _ Weight-bearing and resistance-training exercises

- _ A healthy lifestyle with no smoking or excessive alcohol intake
- _ Talking to one's healthcare professional about bone health
- _ Bone density testing and medication when appropriate

Medications

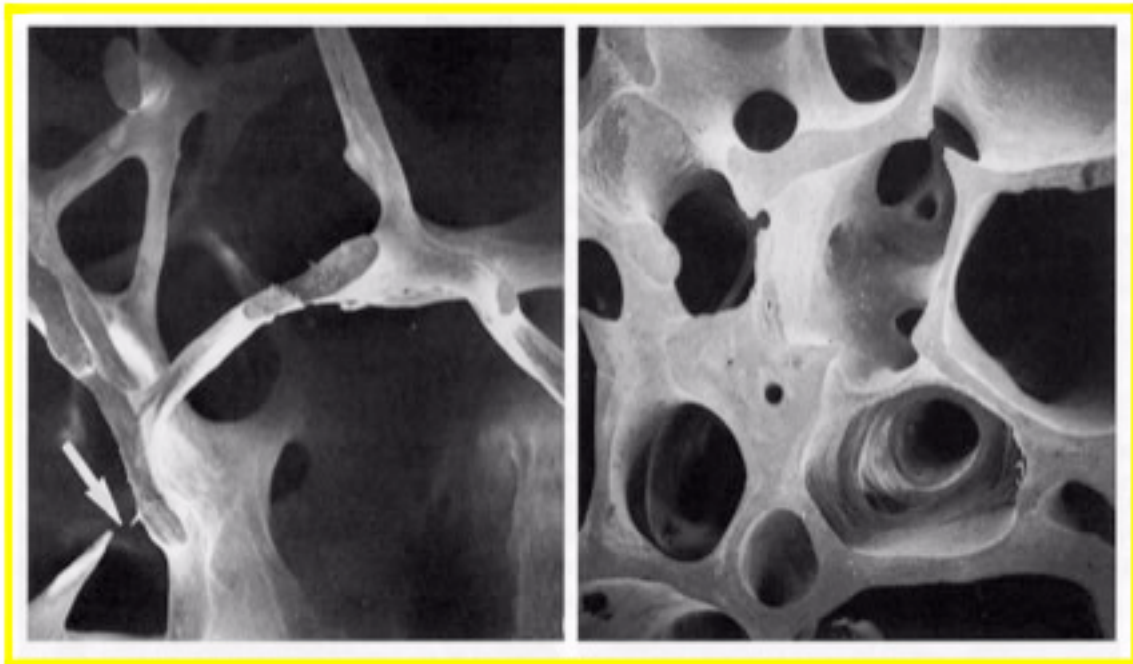
- Although there is no cure for osteoporosis, there are medications approved by the FDA for postmenopausal women to prevent and/or treat osteoporosis.

SPEECH
WHAT IS OSTEOPOROSIS, AND WHY MUST WE ACT NOW?
DR ETHEL SIRIS

Osteoporosis Definition: NIH Consensus Conference

“A skeletal disorder characterized by compromised *bone strength* predisposing to an increased risk of fracture”

Bone strength = Bone density (quantity) + Bone Quality 1



Osteoporosis

Normal

Osteoporosis Prevalence

- Affects 200 million women worldwide
 - 1/3 of women aged 60 to 70
 - 2/3 of women aged 80 or older
- Approximately 30% of women over the age of 50 have one or more vertebral fractures²
- Approximately one in five men over the age of 50 will have an osteoporosis-related fracture in their remaining lifetime

Projected Number of Osteoporotic Hip Fractures Worldwide

Total number of hip fractures:

1950 = 1.66 million

2050 = 6.26 million

- In the US, 8 million women and 2 million men have osteoporosis.
- An additional 34 million Americans currently have low bone mass.
- In the US approximately half of women and one-fourth of men aged 50 years or older will suffer an osteoporosis – related fracture within their lifetime.
- Annually, osteoporotic fractures account for:
 - ~\$14 billion in direct medical costs
 - >400,000 hospital admissions
 - ~2.5 million physician visits
 - >180,000 nursing home admissions
- Projected annual direct costs of osteoporosis by 2040: ~\$50 billion

The Challenge

Osteoporosis and fracture risk are under diagnosed and under treated in the US and world wide.

We have the clinical, research, and public health knowledge to improve this, but *there is a gap between what we know we need to do and what we are actually doing.*

What we Know:

- Osteoporosis is a serious, common, expensive disease world-wide that causes bones to break, that negatively impacts quality of life – and that is both preventable and treatable.
- Today, we know the risk factors that make people susceptible to this disease, a critical component of prevention.
- In the past, we realized someone had osteoporosis only after a fracture had occurred.
- Today we can make a *diagnosis* of low bone mass or osteoporosis before the first fracture, by measuring *bone mineral density*.
- *Once a diagnosis is made, action can be taken.*
- In the past, we had limited treatment options to offer.
- Today we have several *safe and effective medications* that can protect against fractures – and we can individualize treatment to the patient.
- Although treatments are now available, there has been uncertainty about when to treat with medication.
- We are about to have the ability to make cost-effective decisions about *who needs medical treatment* by determining each patient's individual risk for fracture, using a

new WHO formula that will provide country and gender specific guidelines for medical treatment.

What We Must Do:

- **Increase awareness, among the public, the providers of care and the health care systems.**
- **Encourage lifelong calcium and vitamin D adequacy and physical fitness.**
- ***Evaluate* all postmenopausal women and older men for their risk of osteoporosis and fracture and *treat as appropriate* as a *standard of care in medical practice***