

## Osteoporosis: A Preventable Disease

*The Texas Department of Health Osteoporosis Awareness and Education Program was established in 1995 by legislative mandate to perform three main functions: educate the public on the causes of and the personal risk factors associated with the development of osteoporosis, publicize the value of early detection and prevention, and identify the most cost-effective options available for treatment. May is National Osteoporosis Prevention month. This article provides a brief overview of the impact of osteoporosis on public health.*

**O**steoporosis, the most common human bone disease, is characterized by low bone mass and structural deterioration of bone tissue. This systemic disease causes bone loss throughout the skeleton, leading to bone fragility and an increased susceptibility to fractures.

Osteoporosis is a preventable disease that, unfortunately, often is not identified until the individual suffers a fracture, sometimes a disabling one. While the most common osteoporotic fractures are those of the hip, vertebra, and wrist, almost all fractures in older adults are due in part to low bone density. Although some common fractures may be followed by full recovery, others may result in chronic pain, disability, and even death.

### Burden of Suffering

The Osteoporosis and Related Bone Diseases National Resource Center reports that, in the United States today, 10 million people already have osteoporosis, and 18 million more are at risk. Although 80% of those with osteoporosis are women, the 2 million men who suffer from this condition should not be forgotten. One of every 2 women and 1 in 8 men over age 50 will have an osteoporosis-related fracture in his or her lifetime. Each year, 80,000 men suffer a hip fracture; one-third of these men die within a year. Osteoporosis can strike at any age.

Osteoporosis is responsible for more than 1.5 million fractures annually, including 300,000 hip fractures; 700,000 vertebral fractures; and 250,000 wrist fractures. Up to 25% of hip fracture patients require long-term nursing

home care, with only 33% regaining their prefracture level of independence. Vertebral fractures can cause back pain, height loss, and curvature of the spine. Besides limiting common daily activities such as bending and reaching, these complications also can have unwanted effects on appearance. Thoracic fractures can result in restrictive lung disease. Lumbar fractures can alter abdominal anatomy—leading to constipation, abdominal pain, distention, and reduced appetite.

Fractures and their complications can also cause patients to experience depression, anxiety, fear, and anger as a result of their pain, physical limitation, altered appearance, and lifestyle changes. These psychological sequelae may impede recovery and, combined with the dependency often associated with osteoporotic fractures, strain interpersonal relationships and social roles for patients and their families.

### Economic Impact

According to the National Osteoporosis Foundation, osteoporotic fractures resulted in an estimated 432,000 hospital admissions, 2.5 million physician visits, and 180,000 nursing home admissions nationwide in 1995. Direct medical expenditures for osteoporotic fractures alone were estimated at \$13.8 billion that year, and costs are expected to rise as the population ages.

*Continued* ☞

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*Also in this issue*  
 Biomonthly Statistical Summary  
 Vaccine Preventable Disease Update

## What the Physician Can Do

According to the US Preventive Services Task Force, measurement of bone density may be appropriate for high-risk women who would consider hormone prophylaxis only if they knew they were at high risk for osteoporosis or fractures. Additionally, physicians should help their patients reduce their risk of osteoporotic fractures by doing the following:

- Counsel all women on risk factors for osteoporosis
- Counsel all peri- and postmenopausal women on the potential benefits and risks of hormone prophylaxis
- Consider postmenopausal women with vertebral or hip fractures as candidates for osteoporosis treatment
- Teach elderly patients how to prevent falls and fall-related injuries
- Advise all patients to practice behaviors conducive to optimal bone health:
  - √ Obtain adequate daily intake of calcium and vitamin D
  - √ Do not smoke
  - √ Use alcohol in moderation, if at all
  - √ Engage in weight-bearing exercise



## Osteoporosis Information Resources

For newly released osteoporosis materials targeted to Caucasian, Asian, Hispanic, and African American women 45 to 55 years of age, contact the TDH Osteoporosis Awareness and Education Program at (512) 458-7534 or (800) 242-3399.

Additional information on osteoporosis and bone health is available from the following sources:

US Preventive Services Task Force. Musculoskeletal Disorders. In: Guide to Clinical Preventive Services, Second Edition: Baltimore: Williams & Wilkins, 1994: 509-529.

National Osteoporosis Foundation. Physician's Guide to Prevention and Treatment of Osteoporosis. Belle Mead, New Jersey: Excerpta Media, 1998.

National Osteoporosis Foundation (NOF). (202) 223-2226  
<http://www.nof.org>

Osteoporosis and Related Bone Diseases National Resource Center  
(202) 223-0344  
<http://www.osteoporosis.org>

TDH Office of Special Projects  
(512) 458-7534  
<http://www.tdh.state.tx.us/osp/osphome.htm>

### Risk Factors That Can Be Changed

- Cigarette smoking
- Excessive alcohol use
- Inactive lifestyle or extended bed rest
- Low estrogen in women
  - √ Abnormal amenorrhea
  - √ Menopause
  - √ Surgical removal of ovaries
- Testosterone deficiency in men
- Diet low in calcium and vitamin D (lifelong)
- Recurring falls

### Risk Factors That Cannot Be Changed

- History of fractures (self and family)
- Female sex
- White or Asian race
- Advanced age
- Small, thin-boned frame

## Bimonthly Statistical Summary of Selected Reportable Diseases

**Mar/Apr 1999**

Selected Diseases/Conditions	HHSC Region											Selected Texas Counties								This Period		Cumulative[1]	
	1	2	3	4	5	6	7	8	9	10	11	Bexar	Dallas	El Paso	Harris	Hidalgo	Nueces	Tarrant	Travis	1998	1999	1998	1999
<b>Sexually Transmitted Diseases[2]</b>																							
Syphilis, primary and secondary	*0	*1	*29	*1	*8	*8	*2	*1	*1	*1	*0	*1	*27	*1	*5	*0	*0	*2	*0	*84	*52	*135	*136
Congenital Syphilis	*0	*0	*1	*0	*0	*9	*0	*0	*0	*0	*0	*0	*0	*0	*9	*0	*0	*1	*0	*30	*10	*49	*31
Resistant Neisseria gonorrhoeae	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*1	*0	*1	*0
<b>Enteric Diseases</b>																							
Salmonellosis	10	2	21	5	6	4	22	4	4	0	16	0	6	0	1	4	5	1	12	333	94	536	292
Shigellosis	12	13	12	0	2	5	22	3	5	1	18	1	7	1	4	5	5	0	6	479	93	902	339
Hepatitis A	13	33	262	4	9	9	43	20	8	3	64	6	198	2	6	21	1	7	31	785	468	1445	799
Campylobacteriosis	5	2	3	2	1	2	18	12	3	0	12	3	2	0	1	6	4	0	8	129	60	256	173
<b>Bacterial Infections</b>																							
H. influenzae type b, invasive	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Meningococcal, invasive	1	4	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	45	6	100	13
Lyme disease	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	0
Vibrio species	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
<b>Other Conditions</b>																							
AIDS[4]	16	5	101	17	23	121	45	38	5	20	18	22	76	20	110	4	7	13	34	718	444	1513	872
Hepatitis B	1	0	1	0	0	1	0	2	0	0	1	1	0	0	1	1	0	0	0	371	6	678	55
Adult elevated blood lead levels	0	1	115	0	1	4	1	10	0	3	2	3	8	0	0	0	0	3	0	246	137	480	271
Animal rabies - total	*3	*11	*15	*1	*0	*2	*21	*10	*19	*0	*2	*1	*0	*0	*1	*0	*0	*0	*1	*92	*84	*121	*135
Animal rabies - dogs and cats	*1	*2	*1	*0	*0	*0	*0	*1	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*0	*7	*5	*7	*8
<b>Tuberculosis Disease[2]</b>																							
Children (0-14 years)	0	0	2	2	0	5	5	0	3	2	4	0	2	2	5	1	0	0	4	30	23	47	30
Adults (>14 years)	4	6	65	9	5	101	24	16	6	15	44	6	37	15	74	16	5	23	11	295	295	497	414
<b>Injuries[2]</b>																							
Spinal Cord Injuries (5)	0	9	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9	0	10

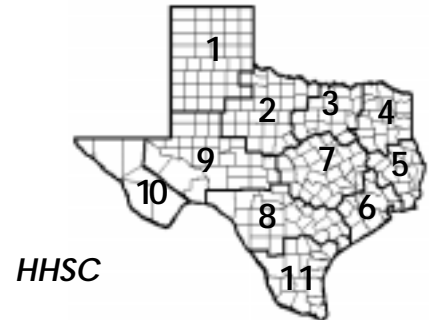
1. Cumulative to this month. 2. Data for the STD's, Tuberculosis, and spinal cord injuries are provided by date of report, rather than date of onset. 3. Voluntary reporting. 4. AIDS totals include reported cases from Texas Department of Corrections, which are not included in the regional and county totals. 5. 6 reports were missing PHR identification \*Data incomplete.

**Call 1-800-705-8868 to report**

1997 POPULATION ESTIMATES

HHSC REGIONS			
1	764,497	4	5,104,222
2	533,392	5	687,951
3	5,104,222	6	4,404,421
7	4,404,421	10	743,763
8	2,017,179	11	1,607,762
9	555,363		
<b>STATEWIDE TOTAL</b>			
19,307,387			

SELECTED COUNTIES	
Bexar	1,324,190
Dallas	2,099,876
El Paso	715,807
Harris	3,163,342
Hidalgo	492,619
Nueces	311,154
Tarrant	1,427,664
Travis	632,922





*Disease Prevention News (DPN)*  
 Texas Department of Health  
 1100 West 49th Street  
 Austin, TX 78756-3199  
 Phone: (512) 458-7677  
 Fax: (512) 458-7340  
 Email: [dpn@discon.tdh.state.tx.us](mailto:dpn@discon.tdh.state.tx.us)

The electronic versions of *Disease Prevention News* are available at the following locations:  
<http://www.tdh.state.tx.us/phpep/dpnhome.htm>  
 TDH Healthy Texans BBS: (800) 858-5833

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**Vaccine-Preventable Disease Update  
 Reported Cases with Onset From 3/1/99-4/30/99**

Condition	County	Number of Cases	Date of Onset	Condition	County	Date of Cases	Date of Onset
Mumps	Harris	1	3/9	Pertussis	Smith	2	3/15
	San Jacinto	1	3/22				2
Pertussis	Bell	2	3/1		Travis	4	3/11
		2	3/16			2	3/14
	Hidalgo	1	3/20		Upshur	2	3/24
	Kaufman	1	3/15	Rubella	Dallas	1	3/31
	Smith	2	3/9		Travis	1	3/4
<b>YTD</b>	<b>H Flu</b>	<b>Hep B</b>	<b>Measles</b>	<b>Mumps</b>	<b>Pertussis</b>	<b>Rubella</b>	<b>Tetanus</b>
	2	55	2	12	38	4	1