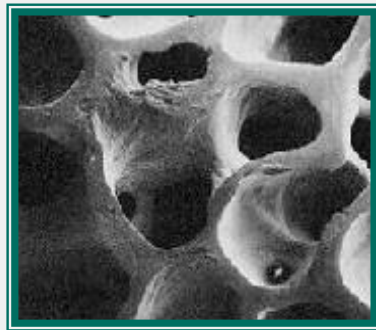
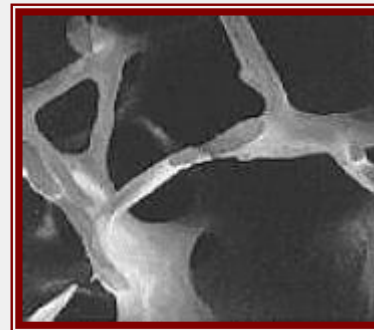


OSTEOPOROSIS

A systemic skeletal disease characterized by **low bone mass** and **micro-architectural deterioration** of bone tissue, leading to bone fragility and an increased risk of fractures of the spine, hip, and wrist. [WHO; NIH]



Healthy
Bone

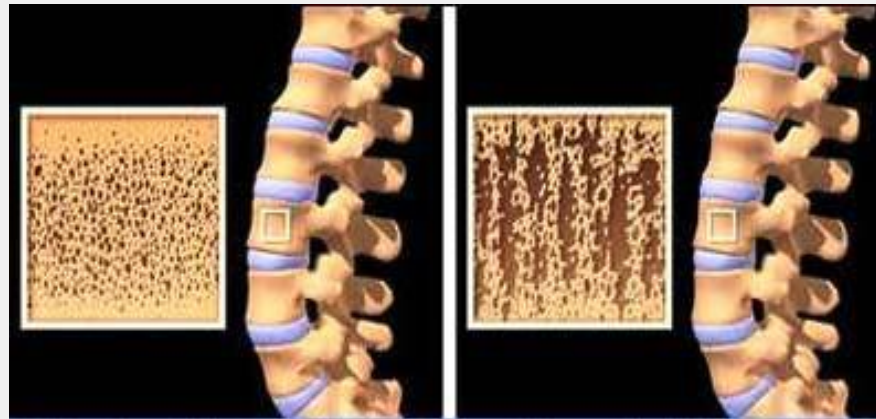


Osteoporotic
Bone



OSTEOPOROSIS

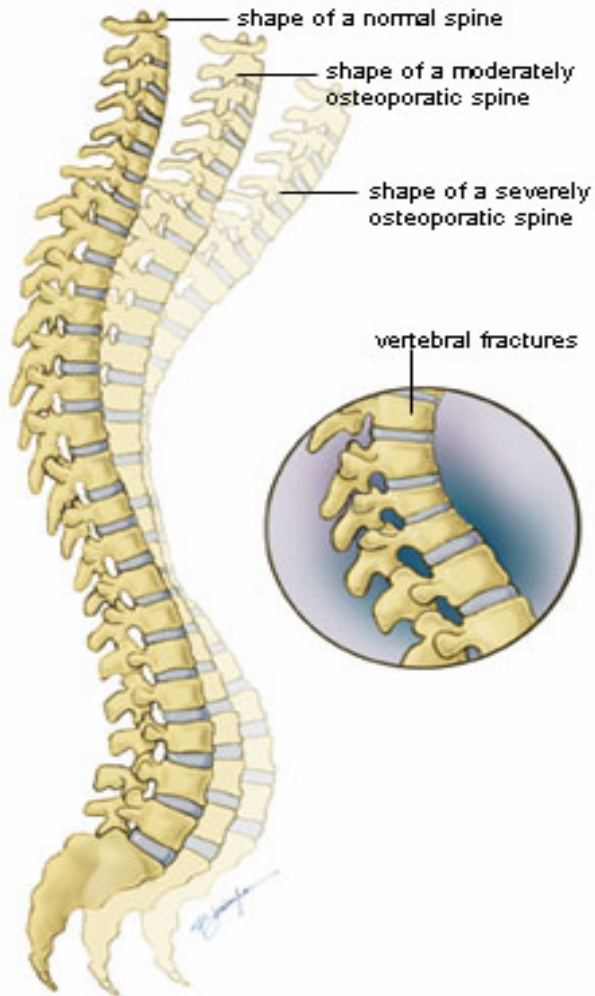
- **Bone Strength** - size and density of bone
- **Bone Density** - calcium, phosphorous and other minerals
- **Bone Remodeling** - new bone formation vs. old bone resorption
 - **Young** - body forms new bone faster than it breaks old bone down
 - **Older** - body resorbs old bone faster than it forms new bone
- **Peak Bone Mass** - reached by mid-30s age
- **Risk of Osteoporosis:**
 - **amount of bone mass attained between ages of 25 and 35**
 - **versus the rapidity of bone loss latter in life**



**Normal Honeycomb
Bone**

**Osteoporotic Porous
Bone**

OSTEOPOROSIS



- **Bone Loss with Age**
- **Deformation of Spine**
- **Vertebral Fractures**



OSTEOPOROSIS

Highly Prevalent - affects 75 million people worldwide

- **1/3 of women aged 60 to 70**
- **2/3 of women aged 80 or older**

~ 20-25% of women over the age of 50 have one or more vertebral fractures

- **United States: 25%**
- **Denmark: 21%**
- **Western Europe: 19%**
- **Scandinavia: 26%**
- **Australia: 20%**



Vertebral Fracture

OSTEOPOROSIS

UNITED STATES

Osteoporosis - 10 Million People

- 8 million women
- 2 million men

Low Bone Mass - 34 Million People

Osteoporosis Fractures over age 50:

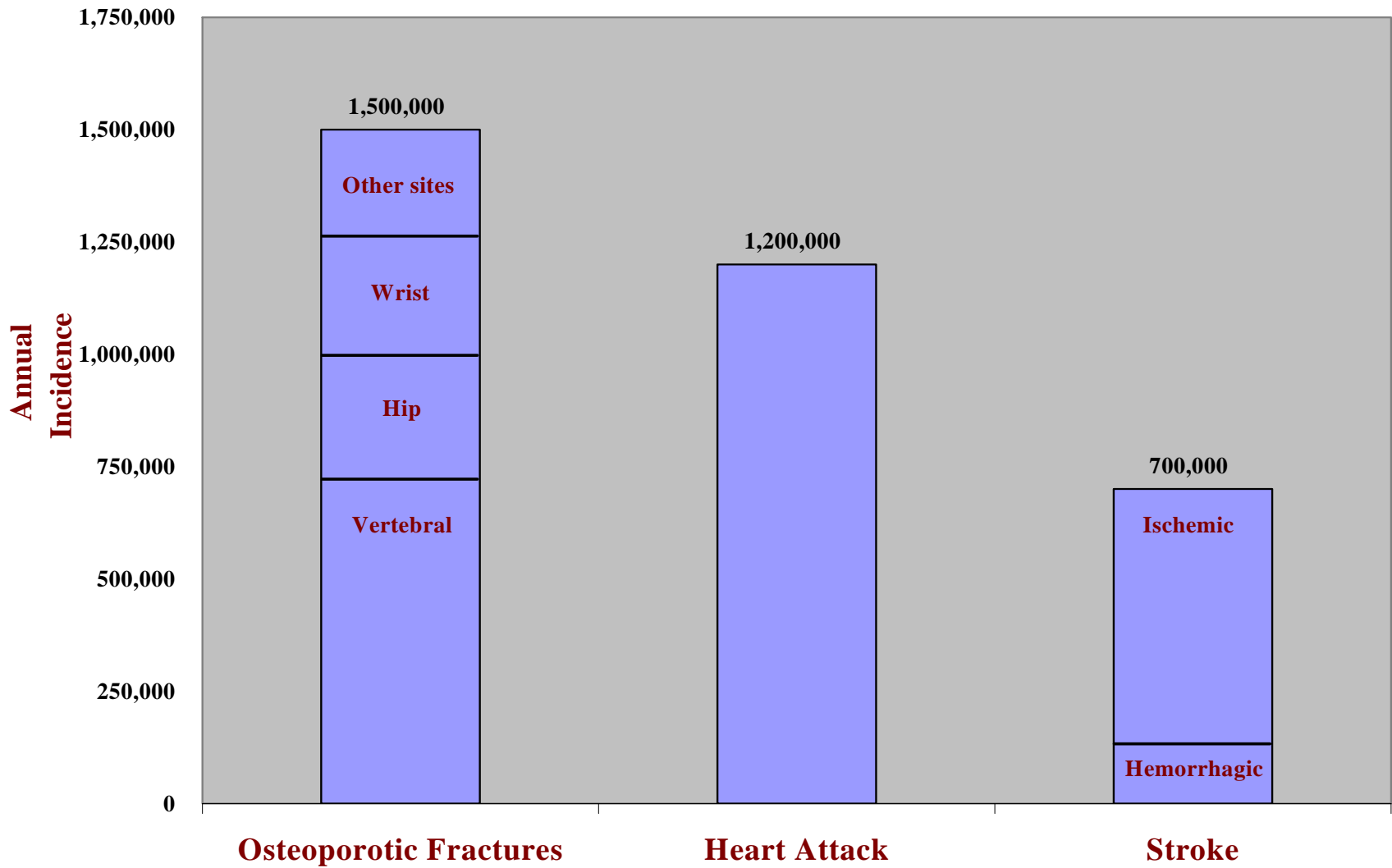
- one out of every two women
- one in four men

Annual Fractures - 1.5 million

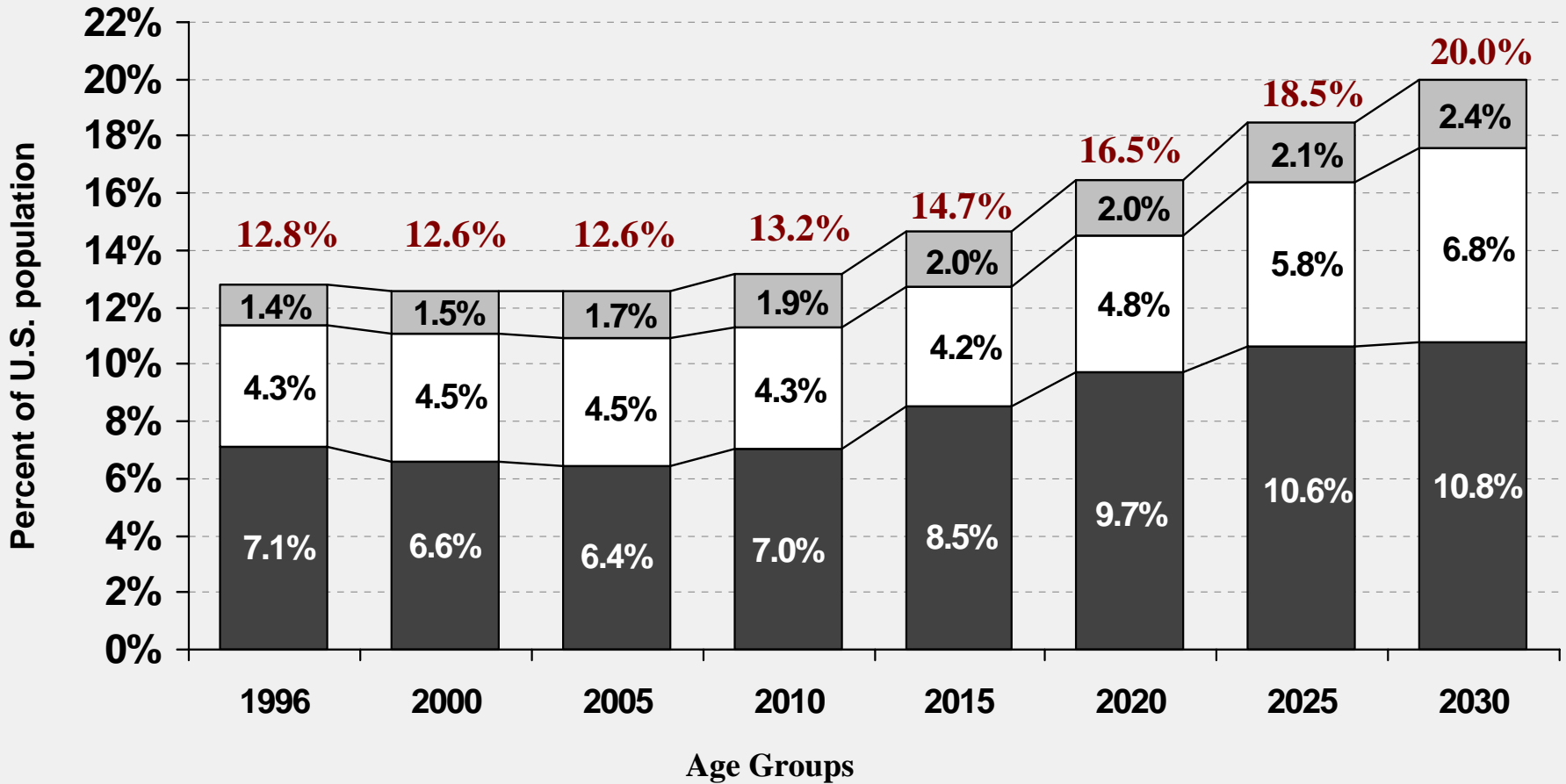
- 700,000 vertebral
- 300,000 hip
- 250,000 wrist
- 300,000 at other sites



U.S. Disease Comparison



U.S. Population, Age 65 and Over (as a percent of total population) 1996 - 2030



65 to 74
 75 to 84
 85 and Over

