

were not adopted by all 50 states until just a few months ago, according to Lindsay. Moreover, the Medicare reimbursement for DEXA was recently increased to an average of \$125 per scan.

"With the new treatments for osteoporosis, DEXA is more valuable overall," said Charles Chestnut, MD, a professor of medicine and radiology and director of the osteoporosis research group at the University of Washington in Seattle. "More and more DEXA's are springing up. Soon they will be everywhere." *Newsline* decided to investigate the recent surge in bone density testing and to determine the potential effect on nuclear medicine practitioners.

#### How DEXA Became Part of Nuclear Medicine

Bone density measurements have been around for 25 years but have remained mainly in the research realm. In the early 1970s, researchers were able to measure bone mass in the wrist using single-photon absorptiometry with  $^{125}\text{I}$ .

By the mid-1980s, researchers could obtain hip and spine measurements using dual-photon absorptiometry which had a gadolinium source. Due to its radioactive source, the dual-photon densitometer was installed most often in the nuclear medicine department of hospitals. Since the \$5000 gadolinium source required replacement every year, said Chestnut, the dual-photon densitometer never came into widespread clinical use.

By 1989, DEXA became available and replaced the need for dual-photon absorptiometry. "Physicians began to use DEXA as a clinical tool, whereas dual photon was primarily a research tool," Chestnut observed. DEXA was used to assess such medical conditions as estrogen deficiency and asymptomatic primary hyperparathyroidism.

Nuclear physicians, for the most part, were the

ones administering DEXA. Referring physicians, however, were not enthusiastic about sending patients to have their bones scanned for a disease that had no treatment beyond estrogen replacement therapy or calcitonin injections. This all changed with the approval of alendronate and the calcitonin nasal spray. Case in point: The University of Washington's nuclear medicine department went from averaging 100 DEXA scans per month in 1995 to averaging 250 scans per month in 1996.

#### Will DEXA Remain Part of Nuclear Medicine?

Although the nuclear medicine department at Chestnut's institution performs DEXA, he described the setup as "an anachronism." He predicted that DEXA would not remain in the domain of nuclear

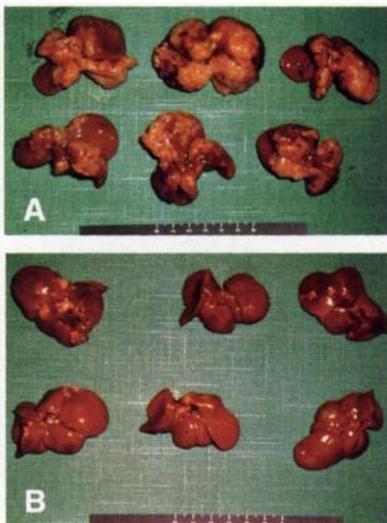
*(Continued on page 36N)*

### Osteoporosis: Not Just a Woman's Disease

While some men gripe about reverse discrimination in the workplace, they may have a legitimate complaint when it comes to osteoporosis. After all, 1.5 million men suffer from osteoporosis and an additional 3 million are at risk for developing the disease. Yet, the two new treatments for preventing osteoporosis (alendronate and calcitonin) have been approved by the Food and Drug Administration only for postmenopausal women. Although doctors have been prescribing the medications to men, "the drugs' efficacy has only been tested in women," said endocrinologist John Stock, MD, professor of medicine at the University of Massachusetts Medical

School in Worcester.

Adding insult to injury, Stock said research studies on bone mass measurements in men lag two to three years behind those on women. Researchers still have not pinpointed a reliable reference range for healthy men to use as a gauge for unhealthy bone loss. Although men with certain conditions (such as prolonged use of steroid therapy) may have their bone mass measured with DEXA, the vast majority of those at risk for osteoporosis do not get screened. The good news is an ongoing epidemiological, slated to be published this fall, will provide a normal reference database for men.



### Erratum

In the August issue of *Newsline*, Figure 6A and B in a commentary written by Henry N. Wagner, Jr., MD titled, "1996 SNM Annual Meeting: Medical Problem Solving" was printed incorrectly. The correct images and accompanying explanation of the research follow:

The paradigm for radiotherapy with recognition-site ligands is: First, identify the recognition site on the tumor. Second, try treatment with the appropriate nonradioactive agonist or antagonist, depending on which has the desired effect for the specific recognition site. Third, treat the patient with a radiolabeled ligand in large doses.

Krenning and colleagues at the University Hospital Dijkzigt in Rotterdam, The Netherlands, described results in rats with neuroendocrine tumors expressing somatostatin receptors, who received large doses of  $^{111}\text{In}$ -somatostatin analog. The tumors were not present when the animals were killed, although the livers of animals treated with nonradioactive somatostatin analog were full of tumor (Fig. A and B).