Bone Mineral Densitometry:

Society Responds to HCFA and Blue Cross/Blue Shield Subcommittee

"In the last few years, two methods, dual photon absorptiometry and quantitative computer tomography, have been developed with a great potential for use in general clinical practice. Of these two, dual photon absorptiometry is at this time the method of choice."

While patients requiring measurement of lumbar spine bone mineral density, and nuclear medicine physicians who provide this measurement, await the pronouncement of the Health Care Financing Administration (HCFA) on the appropriateness of reimbursing for dual photon absorptiometry, the Blue Cross/Blue Shield (BC/BS) Medical Advisory Subcommittee on September 5, 1984, recommended to its parent body that it disapprove claims submitted for single and/or dual photon absorptiometry.

Some BC/BS plans did reimburse for single photon absorptiometry before the September 5 decision. HCFA approved reimbursement for single photon studies about two years ago, but now that decision is also being reassessed. Except for a handful of state BC/BS plans, neither group has ever endorsed payment for dual photon absorptiometry.

Henry Ernstthal, executive director of SNM, has written to BC/BS citing the interest and expertise of SNM members. He urged that no decision be promulgated without first considering expert testimony from Society members. Karen Smith, manager of Technology Evaluation and Coverage at BC/BS, has indicated that input from SNM would be both desirable and reviewed with care.

Wahner reviews methods

In response to an earlier request for relevant information by the Office of Health Technology Assessment (OHTA), published in the *Federal Register* (Oct. 26, 1984), the Society asked SNM member Heinz W. Wahner, MD, of the Mayo Clinic's Section of Diagnostic Nuclear Medicine, to prepare a report on the efficacy and desirability of bone mineral measurement. Dr. Wahner has been active in the field for many years, and recently authored a two-part series on the subject (*1*).

In the SNM report, he stated that "numerous methods for assessing bone mineral have been used for the past 30 years. These procedures have advanced the knowledge of bone disease, but have had little impact on patient management. In the last few

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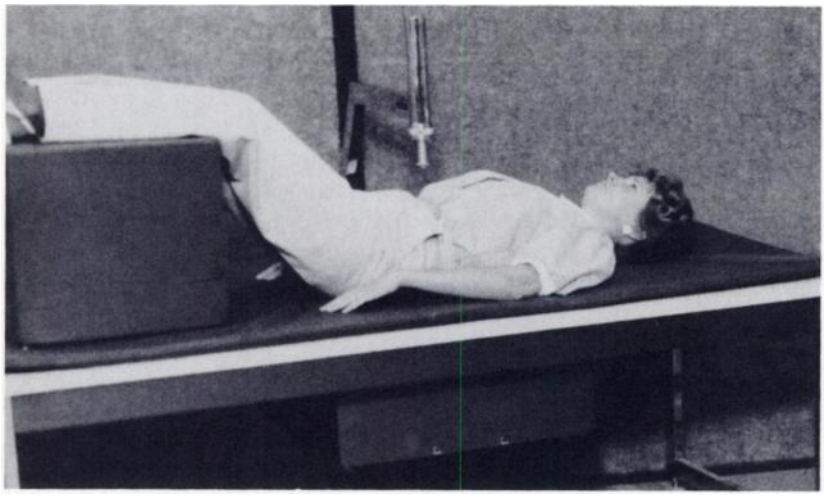

The vast majority of osteoporotic conditions affect trabecular bone, which is measured by dual photon absorptiometry of the lumbar spine (as seen above), although some disorders affect cortical bone, found in the distal radius and measured by single photon absorptiometry. **(Courtesy of the University of Wisconsin)**

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years, however, two methods, dual photon absorptiometry and quantitative computer tomography, have been developed with a great potential for use in general clinical practice. Of these two, dual photon absorptiometry is at this time the method of choice.

"The dual photon spinal scan is a reliable method to diagnose and follow patients with osteoporosis. The information given is not available from any other procedure with comparable accuracy, precision, acceptability to the patient, and for this relatively low cost," he concluded.

In an editorial entitled "Bone of Contention" (*Newsline*, Sept. 1984), Stanley J. Goldsmith, MD, director of nuclear medicine at The Mount Sinai Medical Center in New York, stated that "ongoing efforts by developers and manufacturers to obtain reimbursement for this examination have been stymied by the reluctance of HCFA to provide coverage because of an apparent misunderstanding of the ongoing discussion within the scientific community of the relative merit of the technique versus the more expensive computer tomographic technique." He added that "the Office of Health Technology Assessment (OHTA) would do well to recommend approval of these devices."

The dual photon method offers several advantages over computer tomography. It exposes the patient to less radiation—5 to 15 mrads for dual photon, as opposed to 200 to 1250 mrads for CT. The marrow is exposed to 500 times more radiation with CT than with the dual photon procedure. Whereas CT scanners cost $750,000 to $1 million, the dual photon bone scanner ranges from $35,000 to $40,000. The CT scan itself is also more expensive, about $300 to $400, compared to the dual photon bone scan which costs from $125 to $200, according to the nuclear medicine physicians contacted by *Newsline*.

Richard B. Mazess, PhD, associate professor of medical physics at the University of Wisconsin, and a pioneer in the area of bone mineral assessment, said, "The recommendation of Blue Cross/Blue Shield is incomprehensible to me." Dr. Mazess noted the irony of the BC/BS decision in light of a position paper published last summer by the American College of Physicians (ACP) which stated, "Dual photon absorptiometry (DPA) can be used to quantify changes in bone mineral content in patients who have metabolic bone disease, or who are undergoing treatment that alters bone content. If a test of bone mineral content is needed in the evaluation of patients with metabolic bone disease, DPA may be preferable at this time because of its lower radiation dose and cost." (2) When *Newsline* contacted the ACP about this issue, a public affairs staff member said that while the ACP did not advise BC/BS on this policy, a letter would be sent to "inquire of the Blues how and why its reimbursement policy was established."

"The marrow is exposed to 500 times more radiation with CT than with the dual photon procedure."

Since the BC/BS setback, Dr. Mazess said that the next step is to "mobilize opinion and mobilize the nuclear medicine community behind the efforts of the national leadership on this issue." He has pressured the OHTA several times over the past two to three years to move towards recommending that HCFA endorse reimbursement by Medicare and Medicaid for the dual photon procedure. Dr. Mazess is also the president of Lunar Radiation, a manufacturer of single and dual photon bone densitometers.

Ralph Robinson, MD, director of nuclear medicine and professor of diagnostic radiology at the University of Kansas, sent an extensive written argument to the Kansas City BC/BS in an effort to convince administrators that single and dual photon absorptiometry has "long since passed from the 'experimental' stage to assuming an active role in the management of patients with osteopenia from any of a variety of causes." His petition has been forwarded to the National BC/BS Association. Before the September 5 decision, BC/BS of Kansas City did accept claims for both these procedures, but the process is endangered by the recommendations of the national association.

Patients wary of cost

The ruling has made some patients at the University of Kansas hospital decide against further tests to monitor bone density. Dr. Robinson said that "the endocrinologist who refers some patients to this department believes that we're losing some follow-up and repeat studies because patients have found out that their initial study was not covered."

At the University of Cincinnati, Edward B. Silberstein, MD, associate director of the radioisotope laboratory, said, "I'm very upset about the recent Blue Cross/Blue Shield decision because there are a lot of women who are being deprived of an important test. One out of three women by

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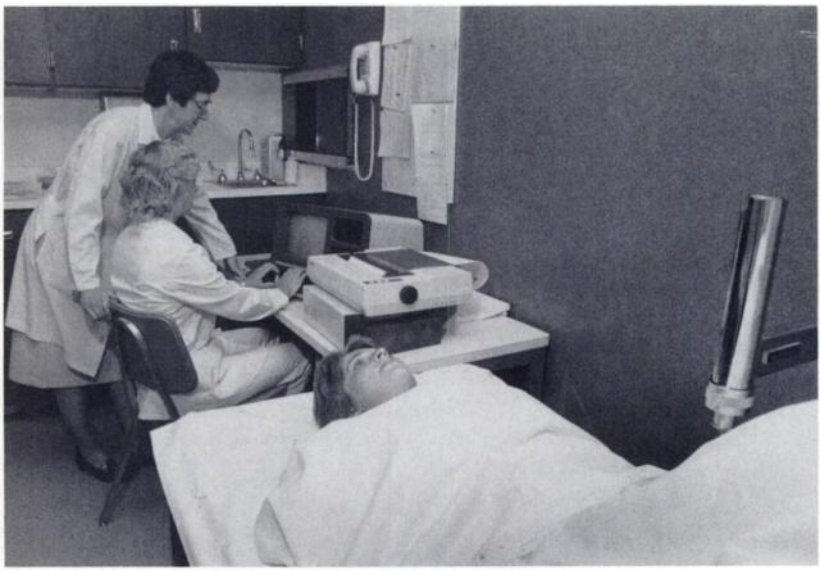
age 65 can expect to have a fractured vertebra from osteoporosis. We need to find out who's at risk, and then we need to monitor the proper treatment. If we are prevented from doing that because of lack of third-party payment, we'll lose the chance to spare millions of women hospital admissions and a lot of pain."

Since this issue affects the elderly, Dr. Silberstein contacted Ohio Senator John Glenn, the ranking Democratic member of the Senate Special Committee on Aging. Senator Glenn sent a letter to HCFA early in December expressing his concern about "possible hindrances to the appropriate diagnosis and treatment of osteoporosis." He also noted that the disorder may be responsible for 1.3 million fractures a year, and cost an estimated $3.8 billion annually. The Senator concluded by requesting that HCFA review the letter from Dr. Silberstein about the problem.

The American College of Nuclear Physicians (ACNP) has also answered the OHTA's call for input, stating that the dual photon procedure "has added an important new dimension to the diagnosis and treatment of bone loss."



Patient undergoing dual photon absorptiometry of lumbar spine at the University of Kansas Medical Center. Sodium iodide detector (at right) picks up "44 and 100 keV" emissions from gadolinium-153 in shielded source holder positioned beneath the imaging table. **(Courtesy of the University of Kansas Medical Center)**

which is measured by dual photon absorptiometry.

"The trabecular bone loses and gains density far more rapidly and to a far greater degree than the cortical bone," Dr. Hilts continued. "It is clinically important to be able to measure these relatively rapid changes that can occur in the central skeleton as evidenced by the lumbar vertebrae bone density."

Senator John Glenn questioned HCFA about "possible hindrances to the appropriate diagnosis and treatment of osteoporosis."

ACNP President Schuyler V. Hilts, MD, further explained that some disorders affect cortical bone (as found in the distal radius) which is measured by single photon absorptiometry; but the vast majority of conditions affect trabecular bone (as found predominantly in the vertebrae)

The OHTA told *Newsline* that it is willing to review any other information relevant to this assessment. Any readers interested in contributing should address their comments to: National Center for Health Services Research, Office of Health Technology Assessment, Park Bldg., Rm. 3-10, 5600 Fishers La., Rockville, MD 20857. (Although the deadline was set for January, the OHTA said it has a few weeks' flexibility.)

Beyond the medical community, the public is becoming more aware of osteoporosis. *Newsweek* (Sept. 17, 1984) recently reported that diet and exercise could stave off the disorder, while new detection devices can monitor it. *Consumer Reports* (Oct. 1984) has also covered osteoporosis, including a table of 16 calcium-tablet products for the comparison shopper. While both publications printed optimistic news about photon absorptiometry, neither mentioned that the procedures may not be covered by health insurance carriers.

References

1. Wahner HW, Dunn WL, Riggs BL: Assessment of bone mineral. *J Nucl Med* 25:1134–1141, 1241–1253, 1984

2. Kimmel PL: Radiologic methods to evaluate bone mineral content. *Ann Intern Med* 100:908–911, 1984