Bone Builders: Preventing And Treating Osteoporosis

(NAPSA)—Until recently, a curved spine or "dowager's hump" was thought to be an inevitable part of aging.

More often than not, the dowager's hump was probably caused by a bone-thinning disease known as osteoporosis, a disease which afflicts half of all women who reach the age of 65.

By weakening the skeleton, this disease frequently causes the bone in the spine to collapse or makes bones so fragile, that the simplest things can cause them to break.

It took scientists a long time to determine that this deterioration was not just a natural consequence of age or immobility.

The first clue came when in 1934, researchers at Yale University discovered that injecting estrogen into male pigeons could increase their bone mass to levels found in female birds.

It was then discovered that the sharp reduction of estrogen at menopause causes bone loss and that regular injections of estrogen boosted the amount of calcium retained in the bone.

Estrogen therapy can however, only prevent bone loss. It cannot replace bone, so for maximum efficiency it must start before serious bone loss occurs.

Osteoporosis is called a silent disease. By the time it causes symptoms, it has already damaged the skeleton.

Fortunately detection of bone damage became easier in the 1960s, when researchers developed more sensitive devices to determine bone density.

Also used to treat postmenopausal osteoporosis are raloxifene, which provides an alternative for women who cannot take estrogen; calcium; and parathyroid hormones, (pending FDA approval) which boosts the supply of calcium in the bones.

Vitamin D is thought to boost calcium levels in the bone by fostering the ability of the intestines to absorb it from the diet.

New research in bone biology has discovered that the cells of the immune system secrete a variety of substances known as cytokines that influence cellular development and may be a factor in bone development and break down.

The full text of a report on the history of osteoporosis research may be found at the Federation of American Society for Experimental Biology at www.FASEB.org.