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**Osteoporosis
Physiological Basis
Assessment,
& Treatment**



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Osteoporosis Physiological Basis, Assessment, and Treatment

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Preface

With the medical advances registered in the last 75 years has come a marked increase in life span. This is resulting in an increasingly aged population, precipitating diseases which are the direct or indirect result of the aging process. No one debates the central concern for diseases such as cancer, heart disease, and circulatory disorders in our aging population. This is understandable because these difficulties are immediately life threatening and account for the greatest number of deaths among our elderly. However, a disease that contributes substantially to morbidity among the elderly is osteoporosis. Furthermore, this disorder not only gives rise to morbidity but also markedly diminishes the quality of life of women after menopause and of both men and women over 65 years of age. Osteoporosis is a diminution of both organic matrix and mineral of the skeleton. When the total amount of bone diminishes to low values, fractures with minimum trauma or spontaneous fractures result, giving rise to symptomatic osteoporosis. In addition, the quality of remaining bone in the elderly may be suspect. Thus, the disease osteoporosis is multifactorial, and has many contributing causes. Some physicians consider osteoporosis a natural consequence of the aging process. However, the fact that some elderly retain strong and relatively dense bone argues against the idea that osteoporosis is an inevitable consequence of aging. We must, therefore, begin to understand what are the factors that play a major role in forming and depositing bone as well as the factors which bring about the resorption and rebuilding of bone. These factors when understood in their fullness will likely provide us with an understanding of management of the bone loss syndrome.

In recent years there have been major advances made in our understanding of calcium physiology and bone structure. We have also made important advances in our methods of measuring bone mass and have accumulated an understanding of the relationship of bone mass with fracture incidence. The discovery of new humoral factors that regulate calcium, phosphorus, and bone have provided new tools with which to understand the disease and with which to treat and/or prevent the disease. Certainly the use of calcitonin, of the new active forms of vitamin D, and replacement estrogen therapy present new possibilities for battling the onset of osteoporosis. It may be possible with further understanding that they can be used in building back skeleton.

The Steenbock Symposium was organized specifically to bring together outstanding clinical investigators to discuss where we are in our understanding of the broad disease of osteoporosis, how do we assess the extent of the disease, what are the risks of diminished bone density and how can this disease be treated or prevented. Work will be presented on the use of estrogens as replacement therapy in the postmenopausal woman, the use of calcitonin to diminish bone pain and also to block bone resorption, and the use of the vitamin D compounds to increase calcium absorption, bone turnover, and to suppress bone loss. Work will also be presented to show the importance of exercise and the need for adequate calcium intakes throughout life. This Symposium will also underline the need for understanding additional factors and new modes of therapy. The Symposium has now been organized into a book which hopefully will reach far beyond the Symposium to educate and/or provide information to the medical world as to how this disease can be managed as of 1989.

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