The Multi-Site Advantage

Sunlight Omnisense® 7000S/8000S is the only multi-site bone sonometer available worldwide. This unique advantage is crucial in the diagnosis of osteoporosis, a systemic disease that involves the deterioration of bone in the entire skeleton.

Osteoporosis strikes different bones at different rates. It is therefore important for the physician to test bone strength at various skeletal sites in order to increase confidence in the prediction of fracture risk for osteoporotic patients.

Combining Measurement Sites – A Proven Benefit

Diagnosis of osteoporosis at multiple sites is a well-established procedure in X-ray-based technologies.[1,2,3,4] Omnisense is the only bone sonometer that is capable of assessing bone strength at a number of proven skeletal sites, an innovation that brings multi-site measurement to primary care facilities with safe, user-friendly equipment.[5]

Testing at multiple sites reveals additional important skeletal information to the physician. It enables the testing of bones with different combinations of cortical and cancellous bone and weight-bearing and non-weight-bearing bone, and thus provides a more comprehensive analysis of the skeleton. Information from several sites is also useful in the monitoring of treatment for osteoporosis[6], because different bones reflect changes after treatment at different rates.[2,4,7]

The use of multi-site measurement also provides better measurement sensitivity than single site, increasing the likelihood of osteoporosis detection in the individual patient.[5,7,8,9]

As in X-ray-based assessment, the accepted clinical measurement method uses the lower T-score between the results at the two sites as the diagnostic score. In the study recording the collection of the Omnisense reference database[10,11], multi-site measurement found a significantly higher prevalence of women with an osteoporotic T-score (T-score <-2.5) than measurement at any single site.

Multi-site Advantage Improved Measurement Flexibility

Multi-site measurement is essential for patients who cannot be measured at a particular measurement site. Obesity, edema at a particular site, a previous fracture, or an IV line can all cause difficulties in measuring a patient's SOS at a specific site.

While measurement problems at one measurement site are revealed in five percent of patients, 99 percent of patients can be measured in at least one of the Sunlight Omnisense® measurement sites.[4]

Four Informative Skeletal Sites

Radius

The third distal radius (wrist) is a measurement site that boasts a wealth of clinical data showing its efficacy in predicting fracture risk. In addition, a number of cross-sectional studies[5,12] found that measurements at this site significantly discriminate between fractured and non-fractured subjects. These findings clearly demonstrate Omnisense's capability to detect osteoporosis.

Tibia

Measurement results from the mid-shaft tibia (lower leg) have been shown to be useful in the monitoring of treatment for osteoporosis[6], significantly reflecting changes in bone even after short treatment periods. This improved monitoring capability is a vital factor in a physician's continuing treatment of an osteoporotic patient.

Phalanx

The 3rd proximal phalanx (finger) is a site clinically proven to predict fracture risk.[10,11,13] Measurement at the phalanx is particularly useful when combined with measurement from the radius, since differences in cortical thickness at the two sites provide more information, creating a more comprehensive picture of bone health.

Metatarsal

Measurements at the 5th metatarsal (foot), a weight-bearing bone, have been shown to be useful in the assessment of fracture risk.[11] Measurement at this site is particularly important because weight-bearing bone may lose strength at a different rate than non-weight-bearing bone.

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