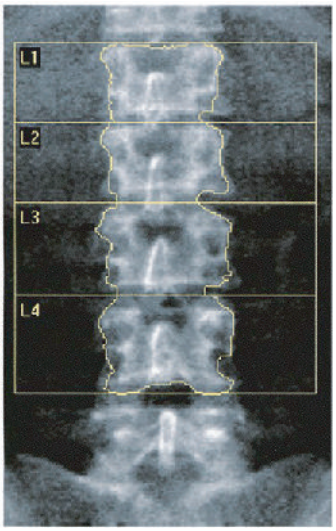
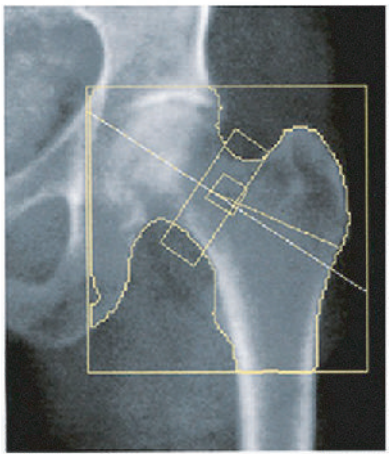
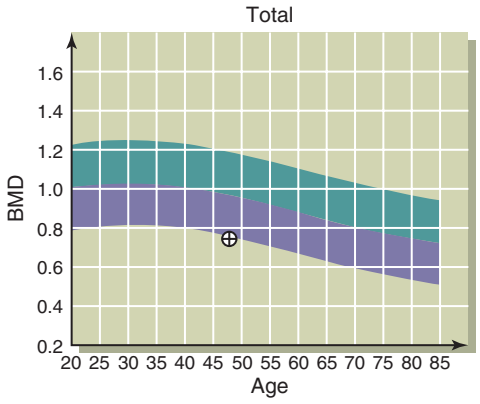


k = 1.135, d0 = 48.6
116 × 137

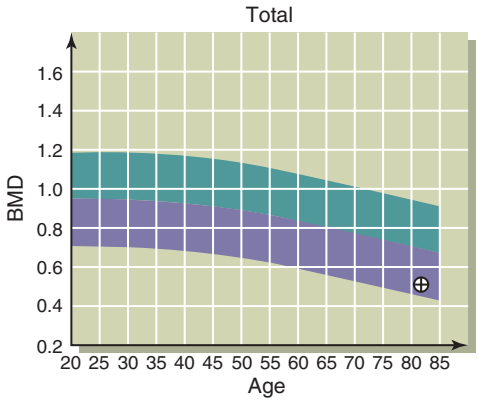


k = 1.145, d0 = 53.2
93 × 97



Region	Area (cm^2)	BMC (g)	BMD (g/cm^2)	T-Score	PR (%)	Z-Score	AM (%)
L1	12.52	8.04	0.642	–2.6	69	–2.0	74
L2	13.41	9.74	0.726	–2.7	71	–2.1	76
L3	16.21	11.96	0.738	–3.1	68	–2.5	73
L4	17.42	13.94	0.800	–2.9	72	–2.2	77
Total	59.56	43.68	0.733	–2.9	70	–2.2	75

Total BMD CV 1.0%, ACF = 1.028, BCF = 1.006, TH = 5.848
WHO Classification: Osteoporosis
Fracture Risk: High



Region	Area (cm^2)	BMC (g)	BMD (g/cm^2)	T-Score	PR (%)	Z-Score	AM (%)
Neck	4.68	1.89	0.404	–4.0	48	–1.6	69
Troch	10.63	4.13	0.388	–3.1	55	–1.3	75
Inter	16.59	9.90	0.597	–3.2	54	–1.3	74
Total	31.89	15.91	0.499	–3.6	53	–1.5	74
Ward's	1.19	0.32	0.268	–4.0	37	–0.9	72

Total BMD CV 1.0%, ACF = 1.028, BCF = 1.006, TH = 5.163
WHO Classification: Osteoporosis
Fracture Risk: High

FIGURE 75-4 **Left,** This patient has a lumbar spine (L1 through L4) bone mineral density (BMD) of 0.733 g/cm^2 *(white circle with cross on the graph)* as measured by dual-energy x-ray absorptiometry (DEXA) and a T-score of –2.9. The reference database graph displays age- and sex-matched mean BMD levels ±2 standard deviations (SDs) *(shaded areas)* derived from a normative database from the manufacturer (Hologic, Inc., Bedford, Mass.). The T-score indicates the difference in SD between the patient's BMD and that of the predicted sex-matched mean peak of a young adult; the z-value is the difference in SD between the patient's BMD and the sex-, age-, and ethnicity-matched mean BMD; and the percentage of mean is the patient's BMD as a percentage of the mean peak young adult BMD or age-matched BMD level. **Right,** This patient has a total hip BMD of 0.499 g/cm^2 *(white circle with cross on the graph)* as measured by DEXA, a femoral neck T-score of –4.0, and a total hip T-score of –3.6. The reference database graph displays age- and sex-matched mean BMD levels ±2 SDs *(shaded areas)* derived from the third National Health and Nutrition Examination Survey. The T-score indicates the difference in SD between the patient's BMD and the predicted sex-matched mean peak young adult BMD; the z-score is the difference in SD between the patient's BMD and the sex-, age-, and ethnicity-matched mean BMD; and the percentage of mean is the patient's BMD as a percentage of the mean peak young adult BMD or age-matched BMD level. (Bone densitometry report for the QDR-4500A bone densitometer, Bedford, Mass., Hologic, Inc.)

T-score, age, gender, height, weight, and specific risk factors, including history of adult fracture, parental hip fracture, current smoking, glucocorticoid use, rheumatoid arthritis, alcohol (≥3 drinks per day), and secondary osteoporosis. The fracture risk prediction is specific for race and country and should be used for patients not on therapy.

Bone mineral density determined by DEXA usually can be monitored after 2 years of therapy, depending on the site to be assessed and the type of therapy prescribed. For example, trabecular bone, which has greater surface area and is more metabolically active than cortical bone, is more likely to show improvements with stronger-acting antiresorptive agents. Changes in bone mass with potent antiresorptive therapy are more prominent in the spine compared with other areas. Seeing no changes in forearm bone mineral density over time is common despite good precision. Although the heel has a high percentage