Maui Diagnostic Imaging

425 Koloa, Kahului, HI 96732

[redacted]

DXA Bone Densitometry Report: Wednesday, December 13, 2017

Dear Dr. SVOBODA,

Your patient PATRICIA GARDNER completed a BMD test on 12/13/2017 using the Lunar Prodigy Advance DXA System (software version: 13.60) manufactured by GE Healthcare. The following summarizes the results of our evaluation.

PATIENT BIOGRAPHICAL:

Name: GARDNER, PATRICIA L
Patient ID: [redacted]
Gender: Female **Exam Date:** 12/13/2017 [redacted]
Indications: Osteoporosis, Post menopausal **Fractures:** **Treatments:** Vitamin D, - 10 KIU-DAILY
Calcium, ALGAECAL-1200MG TOTAL
ESTROGEN- NO STRONTIUM

DENSITOMETRY RESULTS:

Region	Measured Date	Measured Age	Young Adult T-score	Age Matched Z-Score	BMD	%Change vs. Previous	Significant Change (*)
L1-L4	12/13/2017	70.4	-2.2	-0.2	0.917 g/cm²	0.8%	-
L1-L4	12/12/2015	68.4	-2.3	-0.4	0.910 g/cm²	0.2%	-
L1-L4	11/04/2014	67.3	-2.3	-0.4	0.908 g/cm²	5.1%	Yes
L1-L4	03/21/2013	65.7	-2.6	-0.6	0.864 g/cm²	-	-
Neck Left	12/13/2017	70.4	-2.6	-0.7	0.681 g/cm²	2.3%	-
Neck Left	12/12/2015	68.4	-2.7	-0.9	0.666 g/cm²	-1.0%	-
Neck Left	11/04/2014	67.3	-2.6	-0.9	0.673 g/cm²	1.5%	-
Neck Left	03/21/2013	65.7	-2.7	-1.0	0.663 g/cm²	-	-
Neck Right	12/13/2017	70.4	-2.6	-0.7	0.675 g/cm²	-1.3%	-
Neck Right	12/12/2015	68.4	-2.5	-0.8	0.684 g/cm²	0.9%	-
Neck Right	11/04/2014	67.3	-2.6	-0.9	0.678 g/cm²	2.1%	-
Neck Right	03/21/2013	65.7	-2.7	-0.9	0.664 g/cm²	-	-
Total Left	12/13/2017	70.4	-1.9	-0.3	0.763 g/cm²	0.9%	-
Total Left	12/12/2015	68.4	-2.0	-0.4	0.756 g/cm²	4.6%	Yes
Total Left	11/04/2014	67.3	-2.3	-0.8	0.723 g/cm²	3.9%	-
Total Left	03/21/2013	65.7	-2.5	-1.0	0.696 g/cm²	-	-
Total Right	12/13/2017	70.4	-1.5	0.1	0.814 g/cm²	3.0%	-
Total Right	12/12/2015	68.4	-1.7	-0.2	0.790 g/cm²	3.3%	-
Total Right	11/04/2014	67.3	-1.9	-0.4	0.765 g/cm²	2.7%	-
Total Right	03/21/2013	65.7	-2.1	-0.6	0.745 g/cm²	-	-

World Health Organization (WHO) criteria for post-menopausal, Caucasian Women:
Normal: T-score at or above -1 SD
Osteopenia: T-score between -1 and -2.5 SD
Osteoporosis: T-score at or below -2.5 SD

10-year Probability of Fracture[1]	
Major Osteoporotic Fracture[2]	**Hip Fracture**
14.4%	4.2%
Population:	USA (Caucasian)
Risk Factors:	None

Based on Femur (Right) Neck BMD

1 - The 10-year probability of fracture may be lower than reported if the patient has received treatment
2 - Major Osteoporotic Fracture: Clinical Spine, Forearm, Hip or Shoulder

*FRAX is a trademark of the University of Sheffield Medical School's Centre for Metabolic Bone Disease, a World Health Organization (WHO) Collaborating Centre

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The BMD measured at AP Spine L1-L4 is 0.917 g/cm² with a T-score of -2.2. This patient is considered **osteopenic** according to World Health Organization (WHO) criteria. Bone density is between 10 and 25% below young normal. Fracture risk is moderate. Treatment is advised.

The BMD measured at Femur Neck Mean is 0.678 g/cm² with a T-score of -2.6. This patient is considered **osteoporotic** according to World Health Organization (WHO) criteria. Fracture risk is high. Pharmacological treatment, if not already prescribed, should be started. A follow up bone density test is recommended in one year to monitor response to therapy.

The BMD measured at Femur Total Mean is 0.788 g/cm² with a T-score of -1.7. This patient is considered **osteopenic** according to World Health Organization (WHO) criteria. Bone density is between 10 and 25% below young normal. Fracture risk is moderate. Treatment is advised.

RECOMMENDATIONS:

NOF Guidelines recommend people with T-scores between -1 and -2.5 (osteopenia) consider taking an osteoporosis medication when they have certain risk factors. Effective therapies are available in the form of bisphosphonates (Fosamax and Actonel), and Evista. Hormone therapy may be an option based on review of risks and benefits of treatment. All patients should ensure an adequate intake of dietary calcium and vitamin D. The NOF recommends adults under age 50 need 1,000 mg of calcium and 400-800 IU of vitamin D daily. Adults 50 and over need 1,200 mg of calcium and 800-1,000 IU of vitamin D daily.

NOF Guidelines recommend all people with T-scores of -2.5 and below (osteoporosis) consider taking an osteoporosis medication. Effective therapies are available in the form of bisphosphonates (Fosamax and Actonel), Miacalcin, Evista, and Forteo. All patients should ensure an adequate intake of dietary calcium and vitamin D. The NOF recommends adults under age 50 need 1,000 mg of calcium and 400-800 IU of vitamin D daily. Adults 50 and over need 1,200 mg of calcium and 800-1,000 IU of vitamin D daily.

FOLLOW-UP:

People with diagnosed cases of osteoporosis or at high risk for fracture should have regular bone mineral density tests. For patients eligible for Medicare, routine testing is allowed once every 2 years. The testing frequency can be increased to one year for patients who have rapidly progressing disease, those who are receiving or discontinuing medical therapy to restore bone mass, or have additional risk factors.

Based on these results, a follow-up exam is recommended in December 2018.

Sincerely,

Andrew V. Kayes MD

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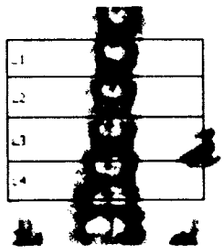
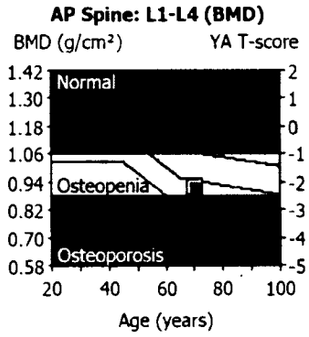
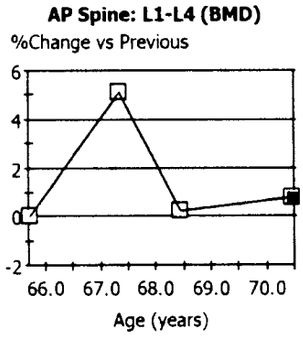
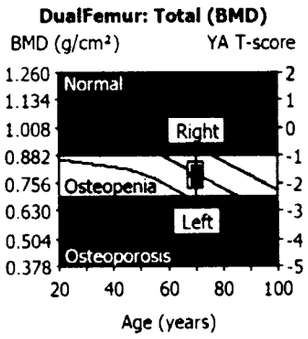
AP SPINE RESULTS:

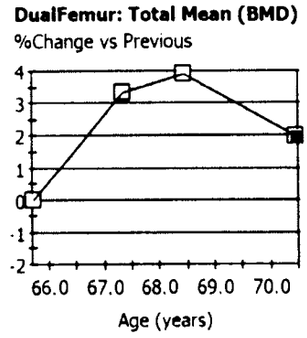






FEMUR RESULTS:





Current system was installed on 09/24/2010. Any prior exams done at this facility before install date were performed on a different scanner. This may result in some minor discrepancies in reported bone mineral density percentage interval change.

T and Z- scores from previous exams displayed in the densitometry table may be different than those originally reported. The new system automatically adjusts the scores to the updated database that we are currently using with the new machine. This difference does not affect the original BMD results nor the accuracy of interval change.