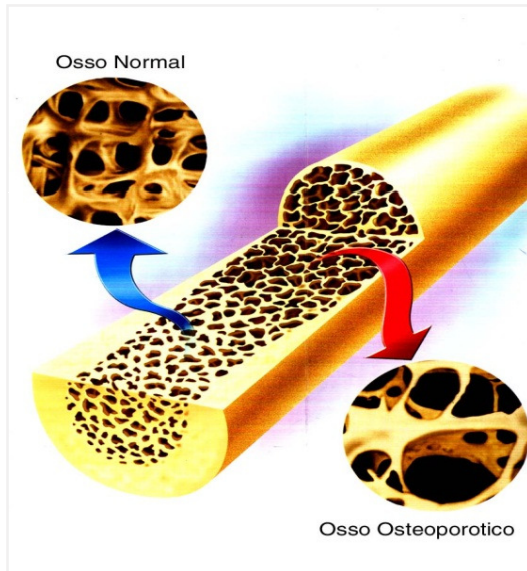
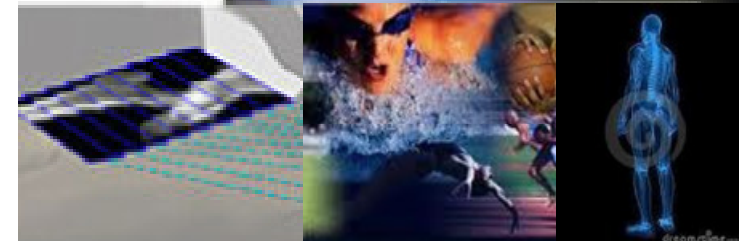
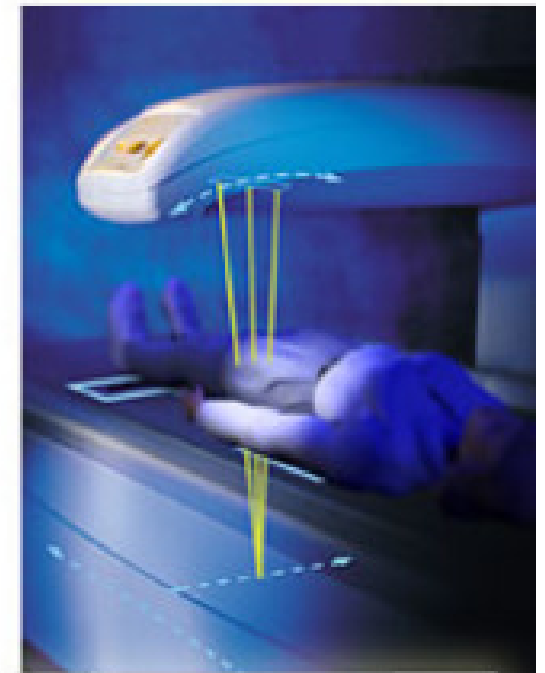


Relationship between postural change, osteoarthritis and osteoporosis in postmenopausal women



L
A
B
D
E
N



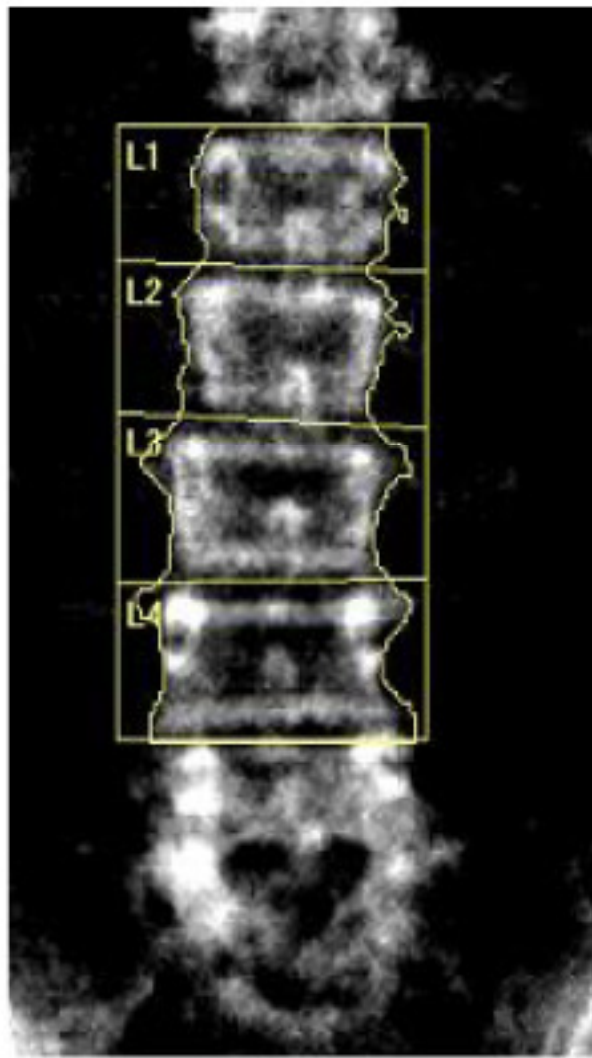
LABDEN-UTFPR



Name:
Patient ID:
DOB: 04 July 1936

Sex: Female
Ethnicity: White
Menopause Age: 46

Height: 152.0 cm
Weight: 53.2 kg
Age: 76



Has p not for diagnostic use
1=1138, 40 = +2.2
47 x 119

Scan Information:

Scan Date: 04 March 2013 ID: A03041309
Scan Type: x Lumbar Spine
Analysis: 04 March 2013 08:21 Version 13.3.0.1:3
Spine (auto low density)
Operator:
Model: Discovery A (S/N 86383)
Comment:

DXA Results Summary:

Region	Area (cm ²)	BMC (g)	BMD (g/cm ²)	T-score	PR (%)	Z-score	AM (%)
L1	11.29	6.36	0.563	-3.9	57	-1.7	75
L2	12.61	7.08	0.562	-4.2	55	-1.8	74
L3	14.88	7.48	0.503	-5.3	46	-2.7	63
L4	16.27	8.39	0.516	-5.0	49	-2.3	67
Total	55.04	29.31	0.533	-4.7	51	-2.2	69

Total BMD CV 1.0%, ACF = 1.018, BCF = 0.994, IH = 7.569

Name:
Patient
DOB: 17 December 1940

Sex: Female
Ethnicity: White
Menopause Age: 45

Height: 152.0 cm
Weight: 61.8 kg
Age: 71

Referring Physician:

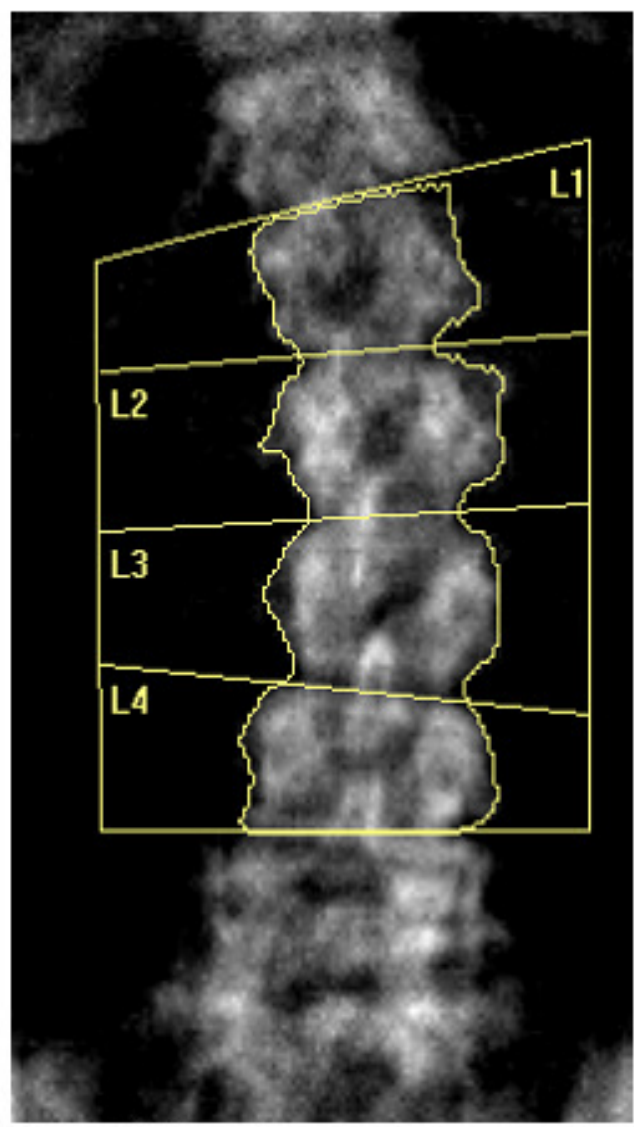


Image not for diagnostic use

Scan Information:

Scan Date: 31 October 2012 ID: A10311203
Scan Type: x Lumbar Spine
Analysis: 31 October 2012 08:37 Version 13.3.0.1:3
Spine
Operator:
Model: Discovery A (S/N 86383)
Comment:

DXA Results Summary:

Region	Area (cm ²)	BMC (g)	BMD (g/cm ²)	T-score	PR (%)	Z-score	AM (%)
L1	10.87	7.82	0.719	-2.5	73	-0.5	93
L2	12.30	10.50	0.854	-1.6	83	0.6	108
L3	13.38	11.96	0.894	-1.7	82	0.6	108
L4	12.37	12.18	0.985	-0.7	93	1.7	123
Total	48.92	42.46	0.868	-1.6	83	0.6	108

Total BMD CV 1.0%, ACF = 1.018, BCF = 0.996, TH = 7.268

Name: [Redacted]
Patient: [Redacted]
DOB: 25 January 1946

Sex: Female
Ethnicity: White
Menopause Age: 53

Height: 159.0 cm
Weight: 62.0 kg
Age: 67

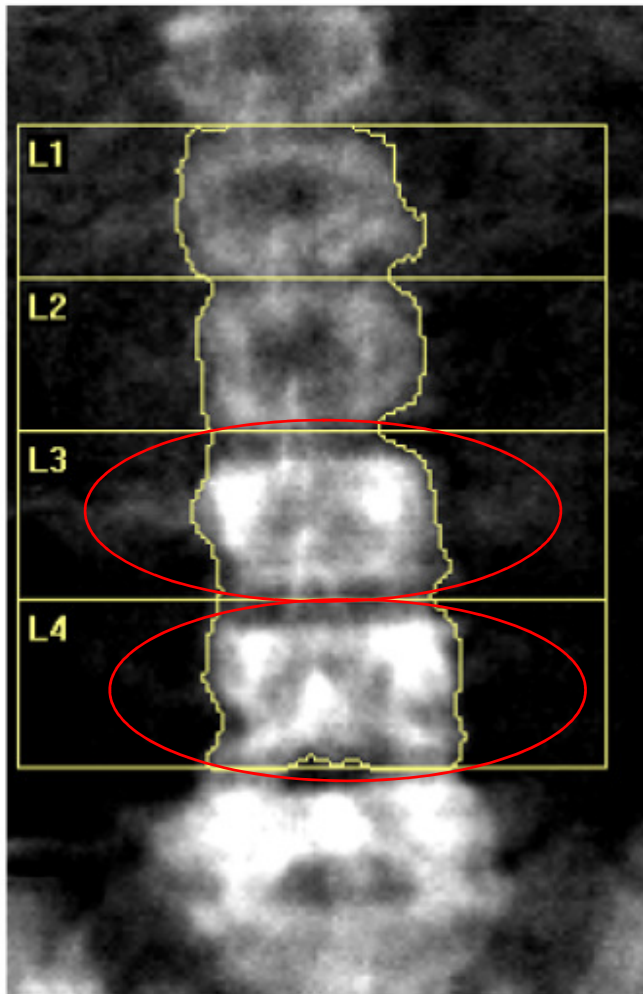


Image not for diagnostic use
k = 1.148, d0 = 43.4
116 x 131

Scan Information:

Scan Date: 18 March 2013 ID: A03181306
Scan Type: x Lumbar Spine
Analysis: 18 March 2013 09:09 Version 13.3.0.1:3
Spine
Operator:
Model: Discovery A (S/N 86383)
Comment:

DXA Results Summary:

Region	Area (cm ²)	BMC (g)	BMD (g/cm ²)	T-score	PR (%)	Z-score	AM (%)
L1	13.23	10.79	0.815	-1.6	82	0.1	101
L2	12.79	11.09	0.867	-1.5	84	0.4	106
L3	14.94	20.48	1.371	<u>2.6</u>	126	4.6	158
L4	16.53	24.80	1.501	<u>4.0</u>	141	6.0	179
Total	57.49	67.16	1.168	1.1	112	3.0	140

Total BMD CV 1.0%, ACF = 1.018, BCF = 0.996, TH = 7.591

Name:
Patient:
DOB: 04 October 1948

Sex: Female
Ethnicity: White
Menopause Age: 44

Height: 163.0 cm
Weight: 60.0 kg
Age: 64

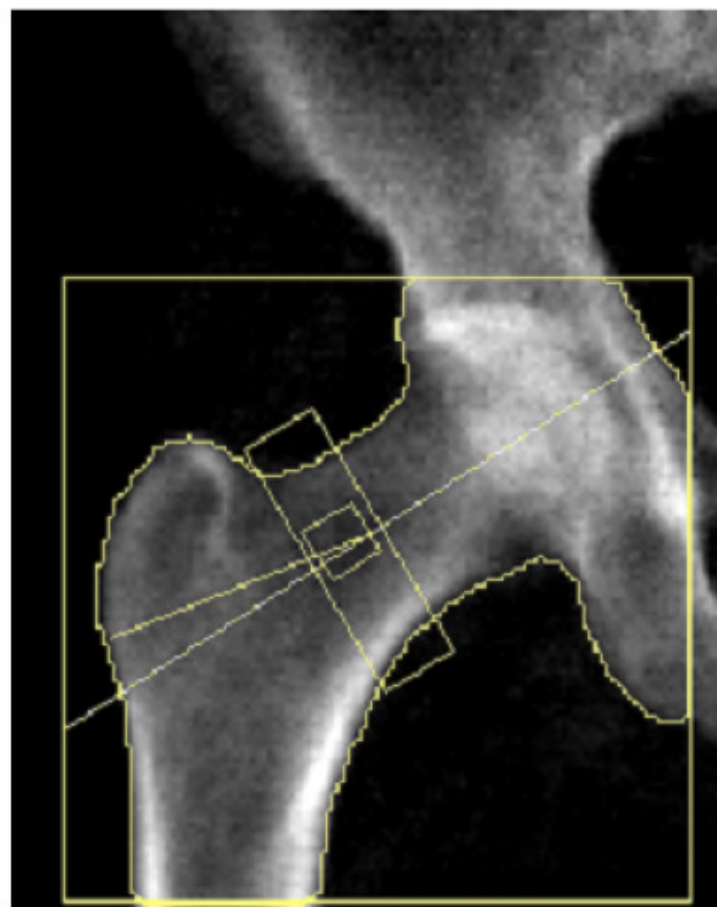


Image not for diagnostic use
k = 1.146, d0 = 49.7
112 x 107
NECK: 49 x 15

Scan Information:

Scan Date: 18 March 2013 ID: A0318130E
Scan Type: x Right Hip
Analysis: 18 March 2013 10:18 Version 13.3.0.1:3
Hip
Operator:
Model: Discovery A (S/N 86383)
Comment:

DXA Results Summary:

Region	Area (cm ²)	BMC (g)	BMD (g/cm ³)	T - score	PR (%)	Z - score	AM (%)
Neck	5.21	2.99	0.574	-2.5	68	-1.0	84
Troch	9.79	5.76	0.589	-1.1	84	-0.1	99
Inter	18.93	16.72	0.883	-1.4	80	-0.5	92
Total	33.93	25.48	0.751	-1.6	80	-0.4	94
Ward's	1.11	0.40	0.358	-3.2	49	-1.0	76

Total BMD CV 1.0%, ACF = 1.018, BCF = 0.996, TH = 5.528

Name:
Patient:
DOB: 04 May 1942

Sex: Female
Ethnicity: White
Menopause Age: 55

Height: 156.0 cm
Weight: 87.0 kg
Age: 70

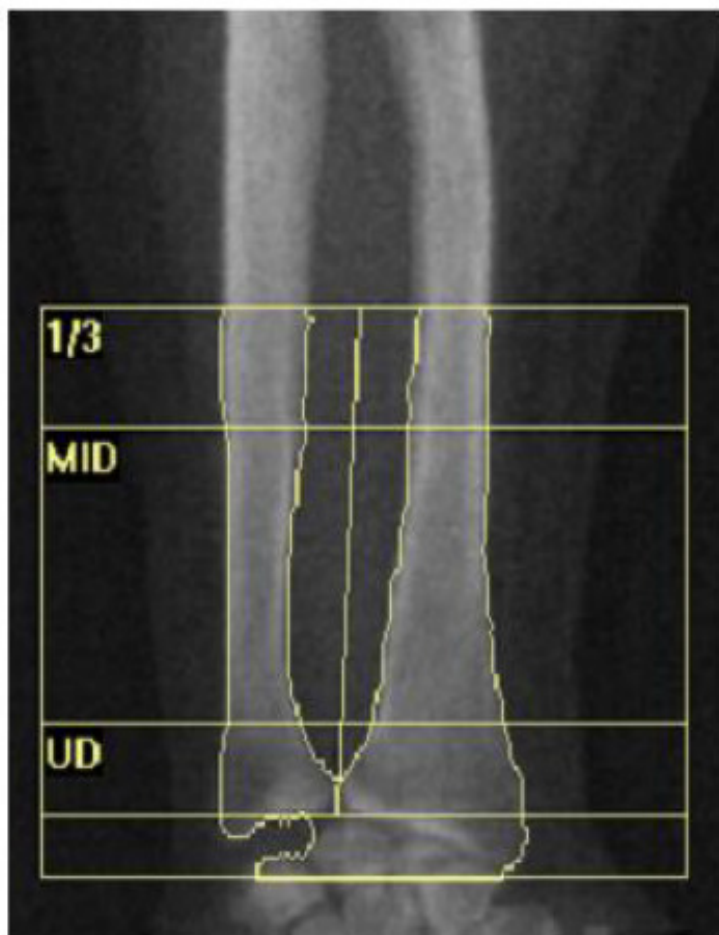


Image not for diagnostic use
k = 1.240, d0 = 66.2
228 x 94, Forearm Length: 25.0 cm

Scan Information:

Scan Date: 14 March 2013 ID: A0314130L
Scan Type: a R.Forearm
Analysis: 14 March 2013 10:39 Version 13.3.0.1:3
Right Forearm
Operator:
Model: Discovery A (S/N 86383)
Comment:

DXA Results Summary:

Radius	Area (cm ²)	BMC (g)	BMD (g/cm ²)	T-score	PR (%)	Z-score	AM (%)
1/3	2.42	1.47	0.608	-1.4	88	0.7	108
MID	6.92	3.47	0.501	-2.0	82	0.2	102
UD	4.03	1.58	0.393	-0.9	89	0.7	111
Total	13.37	6.52	0.488	-1.7	84	0.4	104

Total BMD CV 1.0%, ACF = 1.018, BCF = 0.996

GYNOIDE

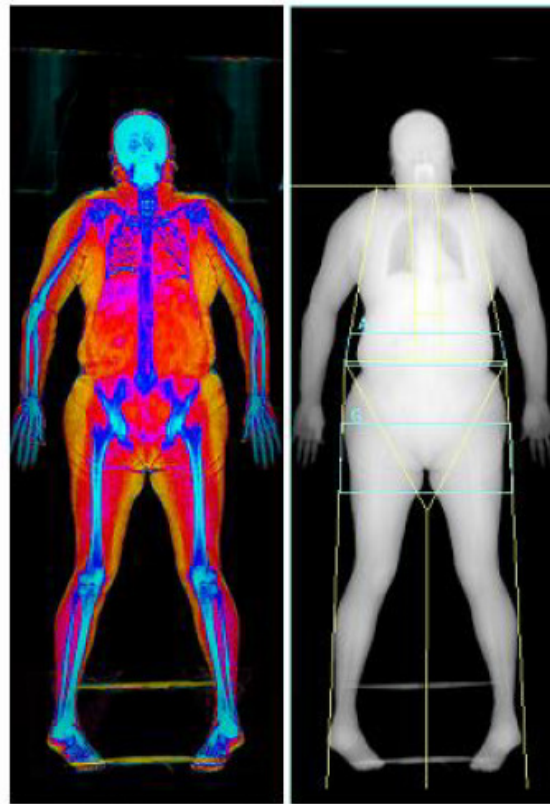
ANDROID



Images not for diagnostic use



Sex: Female
Ethnicity: White
Menopause Age: 49
Height: 163.0 cm
Weight: 67.0 kg
Age: 61



Images not for diagnostic use

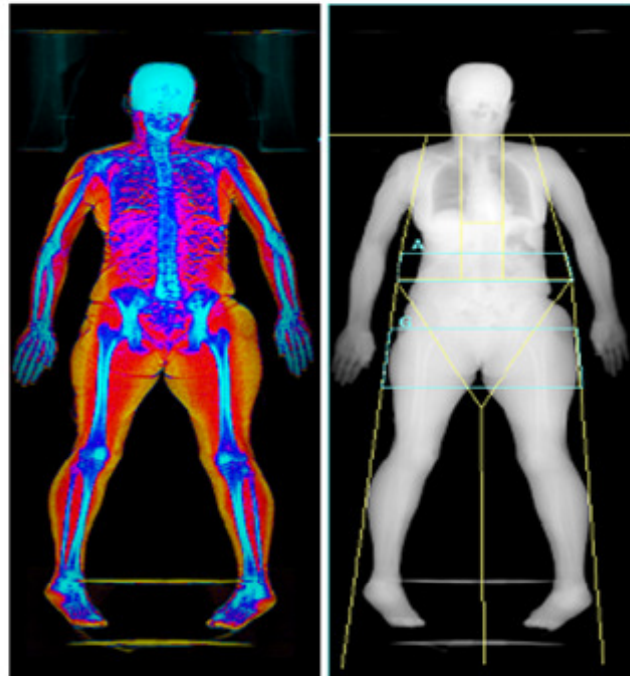


Sex: Female
Ethnicity: White
Menopause Age: 50
Height: 156.0 cm
Weight: 69.0 kg
Age: 64

Name:
 Patient:
 DOB:

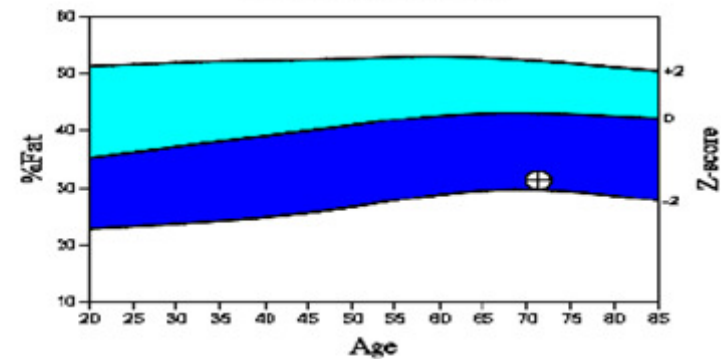
Sex: Female
 Ethnicity: White
 Menopause Age: 38

Height: 166.0 cm
 Weight: 51.0 kg
 Age: 71



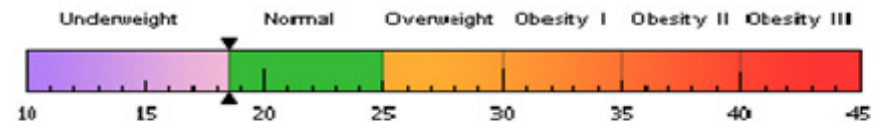
Images not for diagnostic use
 Fat Lean Bone

Total Body % Fat



Source: 2008 NHANES White Female

World Health Organization Body Mass Index Classification
 BMI = 18.5 WHO Classification Normal



BMI has some limitations and an actual diagnosis of overweight or obesity should be made by a health professional. Obesity is associated with heart disease, certain types of cancer, type 2 diabetes, and other health risks. The higher a person's BMI is above 25, the greater their weight-related risks.

Body Composition Results

Region	Fat Mass (g)	Lean+ BMC (g)	Total Mass (g)	% Fat	% Fat Percentile YN	AM
L Arm	774	1641	2415	32.1		
R Arm	891	2033	2924	30.5		
Trunk	6061	19080	25142	24.1		
L Leg	3875	4962	8836	43.8		
R Leg	3755	5126	8882	42.3		
Subtotal	15357	32842	48199	31.9		
Total	16281	35753	52035	31.3	25	4
Android (A)	754	2766	3520	21.4		
Gynoid (G)	3293	5462	8755	37.6		

Scan Date: 15 April 2013 ID: A04151308
 Scan Type: a Whole Body
 Analysis: 15 April 2013 09:20 Version 13.3.0.1
 Auto Whole Body Fan Beam
 Operator:
 Model: Discovery A (S/N 86383)
 Comment:

Adipose Indices

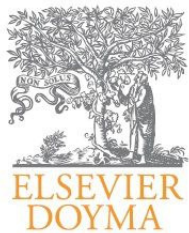
Measure	Result	YN	Percentile	AM
Total Body % Fat	31.3		25	4
Fat Mass/Height ² (kg/m ²)	5.91		16	3
Android/Gynoid Ratio	0.57			
% Fat Trunk/% Fat Legs	0.56		7	1
Trunk/Limb Fat Mass Ratio	0.65		22	5

Lean + BMC Indices

Measure	Result	YN	Percentile	AM
(Lean + BMC)/Height ² (kg/m ²)	13.0		4	5
Appen (Lean + BMC)/Height ² (kg/m ²)	4.99		1	3

YN = Young Normal
 AM = Age Matched

Rev Andal Med Deporte. 2013;6(1):9-11



Revista Andaluza de Medicina del Deporte

Rev Andal Med Deporte. 2013;6(1):7-9

www.elsevier.es/ramd



Original

ARTÍCULO EN INGLÉS

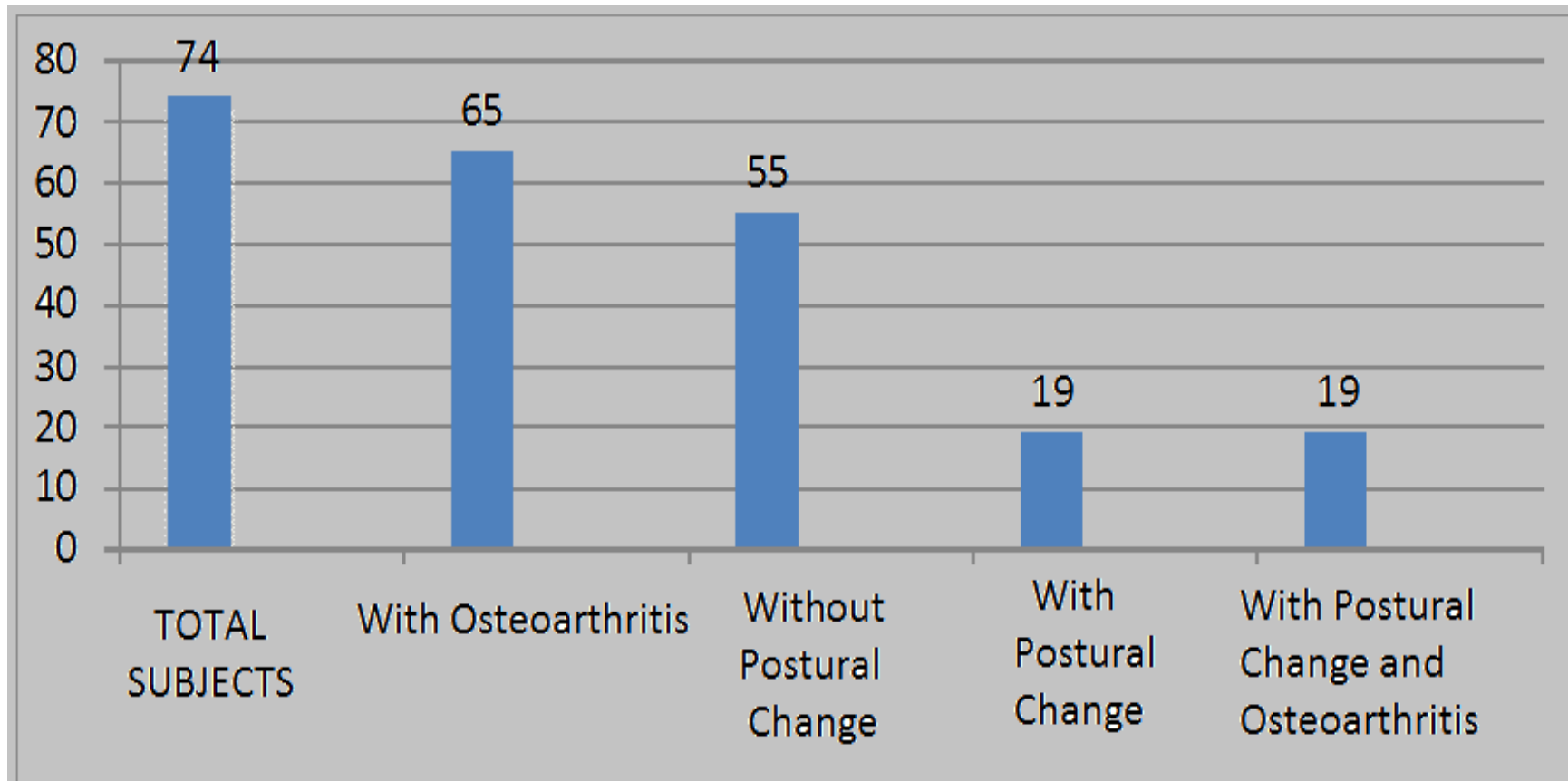
Study of relationship between osteoarthritis, postural changes and osteoporosis in postmenopausal women

O. Matos^a, J.C. Bassan^{a,b}, C.E. Orsso^{a,b}, F. Gabriela^a, S.K. F. Sprenger^a and W. Ribeiro^{a,b}

^aLaboratorio de Investigación Bioquímica y Densitometría. Universidad Tecnológica Federal de Paraná. Curitiba. Brasil.

^bPrograma de Pós-Graduação em Engenharia Biomédica. Mestrado Profissional - PPGEB. Curitiba. Brasil

ARTICLE LABDEN POSTURAL AND OSTEOPOROSIS



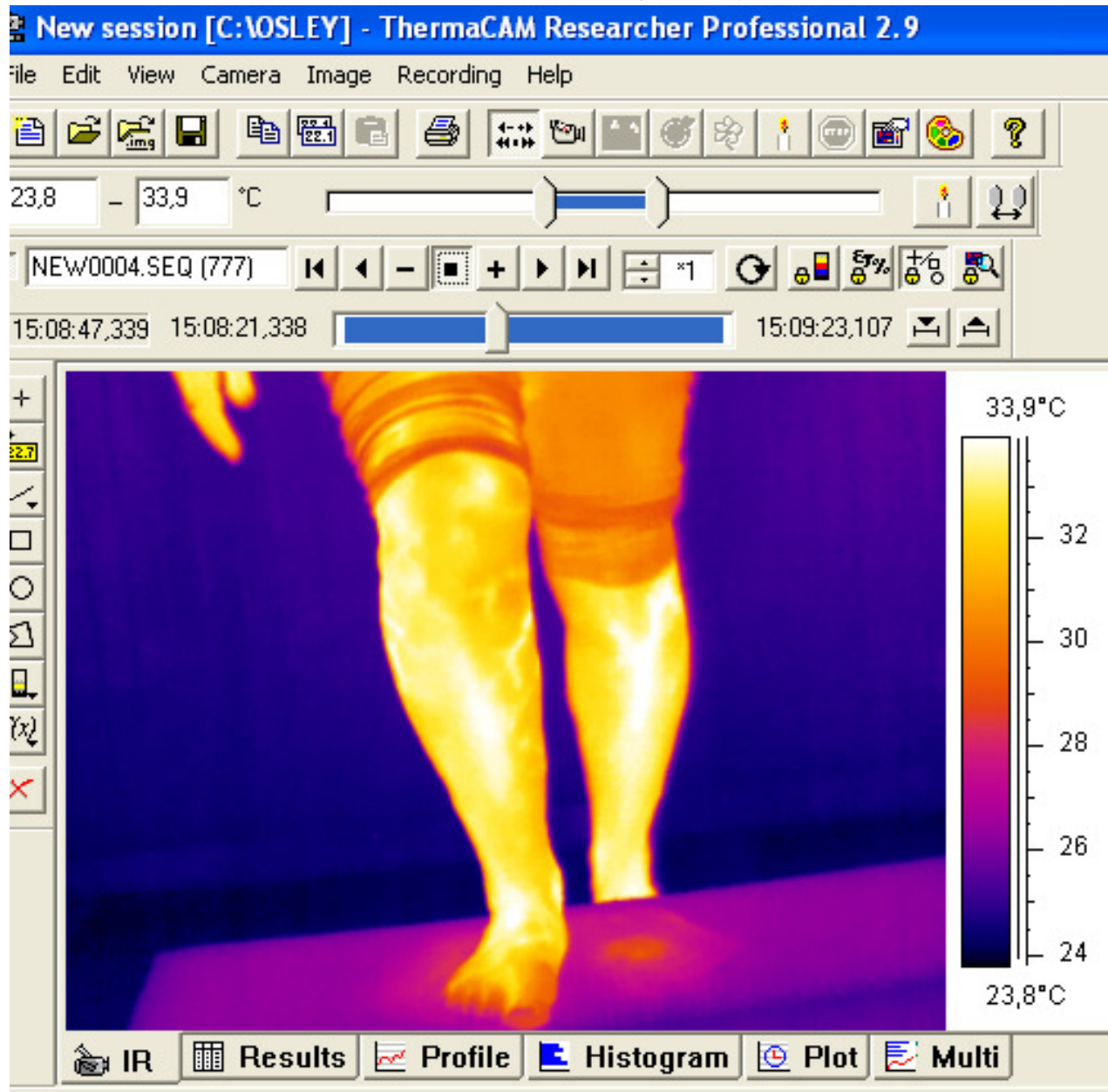
Group with postural change have higher mean age.

Labden, Magazine Andaluza Medicina Del Deporte, 2013

Nutricional Evaluation

- Intake and caloric expenditure;
- Protein Intake;
- Mineral Intake;
- Objective Balance according program.

Thermography



PROGRAMS

POSTMENOPAUSAL

Closed Kinect Chain
Open Kinect Chain

ELDERLY

Open Kinect Chain
Aquatic Activities

**CLINICAL AND PHYSICAL EXAMENATION
DEFINE THE PROGRAM**

AQUATIC ACTIVITES



- weathered objective;
- periodization;
- Increase of progressive resistance.

CLOSED KINECT CHAIN



OPEN KINECT CHAIN



TREADMILL





LABDEN

osleim@utfpr.edu.br