

2. Peripheral quantitative computed tomography (pQCT) (Densiscan 1000)

D50 (trabecular bone density over the core volume of ultradistal radius) (mg/cm³)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	292.6	67.9	246	282.8	63.1	301	266.1	62.9	275	237.2	68.2	246	215.0	58.9	39	268.3	68.8	1107
Female	240.0	56.6	266	203.6	64.5	268	158.0	60.3	268	134.2	59.7	243	129.4	49.4	30	183.5	72.7	1075
Total	265.2	67.5	512	245.5	75.0	569	212.7	82.0	543	186.0	82.2	489	177.8	69.3	69	226.5	82.5	2182

D100 (cortical and trabecular bone density of ultradistal radius) (mg/cm³)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	593.5	92.0	246	573.4	90.4	301	537.9	93.2	275	488.9	96.1	246	445.3	91.0	39	545.8	101.9	1107
Female	608.2	85.4	266	537.1	99.4	268	439.7	91.5	268	383.3	80.5	244	347.2	74.9	30	490.2	125.5	1076
Total	601.2	88.8	512	556.3	96.4	569	489.4	104.5	543	436.3	103.2	490	402.7	97.1	69	518.4	117.4	2183

P100 (cortical bone density of proximal radius) (mg/cm³)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1286.0	126.4	245	1229.4	128.2	299	1176.7	140.9	273	1115.1	163.4	240	1048.9	186.7	39	1197.5	156.3	1096
Female	1381.9	112.6	264	1251.6	159.2	267	1076.5	147.7	267	959.6	165.1	240	911.1	158.8	30	1164.8	220.1	1068
Total	1335.7	128.6	509	1239.8	144.0	566	1127.2	152.6	540	1037.3	181.6	480	989.0	187.0	69	1181.4	191.1	2164

VI. Blood and Urine Analysis

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Venous blood sample and urine were obtained after an overnight fast.

Urine is analyzed using semi-quantitative test tape.

1) Blood chemistry

Total protein (g/dl)

Total bilirubin (mg/dl)

Triglyceride (mg/dl)

Total cholesterol (mg/dl)

HDL-cholesterol (mg/dl)

Lipid peroxide (nmol/ml)

Uric acid (mg/dl)

Creatinine (mg/dl)

Calcium (mg/dl)

Phosphorus (mg/dl)

Glutamate oxaloacetate transaminase, GOT (IU/l)

Glutamate pyruvate transaminase, GPT (IU/l)

Alkaline phosphatase (IU/l)

Gamma-glutamyltransferase (IU/l)

Cholinesterase (IU/l)

Magnesium (mg/dl)

Iron (μ g/dl)

Zinc (μ g/dl)

Vitamin A (IU/dl)

Free triiodothyronine, Free T3 (pg/ml)

Free thyroxine, Free T4 (ng/dl)

Thyroid stimulating hormone, TSH (μ g/ml)

Dehydroepiandrosterone sulfate, DHEA-S (ng/ml)

Sialic acid (mg/dl)

Fasting glucose (mg/dl)

Fasting insulin (μ U/ml)

Hemoglobin A1c (%)

Albumin (mg/dl) direct method

2) Serum fatty acid

Dihomo-gamma-linolenic acid, DHLA ($\mu\text{g/ml}$)

Arachidonic acid, AA ($\mu\text{g/ml}$)

Eicosapentaenoic acid, EPA ($\mu\text{g/ml}$)

Docosahexaenoic acid, DHA ($\mu\text{g/ml}$)

EPA/AA ratio

3) Complete blood cell count

White blood cell count ($/\mu\text{l}$)

Red blood cell count ($\times 10000/\mu\text{l}$)

Hemoglobin (g/dl)

Hematocrit (%)

MCV (fI)

MCH (pg)

MCHC (%)

Platelet count ($\times 10000/\mu\text{l}$)

4) Urine analysis

Hemoglobin

Occult blood

Ketones

Bilirubin

Urobilinogen

Protein

Glucose

PH

Nitrite

1) Blood chemistry

Total protein (g/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.6	0.5	266	7.6	0.4	329	7.7	0.4	295	7.8	0.5	266	7.9	0.5	43	7.7	0.5	1199
Female	7.7	0.4	294	7.7	0.4	285	7.7	0.4	286	7.8	0.5	275	7.7	0.4	34	7.7	0.4	1174
Total	7.6	0.5	560	7.7	0.4	614	7.7	0.4	581	7.8	0.5	541	7.8	0.5	77	7.7	0.4	2373

Triglyceride (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	144.3	107.1	259	134.8	87.8	317	129.1	66.8	287	116.9	56.8	255	113.6	61.2	39	130.8	81.9	1157
Female	75.9	42.3	291	99.4	54.8	278	118.0	76.2	280	116.8	64.2	265	97.7	32.0	32	102.0	62.1	1146
Total	108.1	86.6	550	118.2	76.2	595	123.6	71.8	567	116.8	60.6	520	106.4	50.5	71	116.5	74.1	2303

Total cholesterol (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	212.8	34.7	266	216.0	33.9	329	209.5	33.0	295	208.2	35.0	266	207.9	31.0	43	211.7	34.1	1199
Female	210.1	33.4	294	228.7	34.0	285	232.5	34.6	286	226.7	31.9	275	219.1	25.6	34	224.2	34.3	1174
Total	211.4	34.0	560	221.9	34.5	614	220.8	35.7	581	217.6	34.7	541	212.9	29.1	77	217.9	34.8	2373

Uric acid (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6.0	1.3	266	5.9	1.3	329	5.8	1.2	295	5.8	1.4	266	5.8	1.5	43	5.9	1.3	1199
Female	4.1	0.9	294	4.5	0.9	285	4.7	1.1	286	4.8	1.1	275	4.7	1.0	34	4.5	1.0	1174
Total	5.0	1.5	560	5.3	1.3	614	5.3	1.3	581	5.3	1.4	541	5.3	1.4	77	5.2	1.4	2373

Creatinine (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.8	0.1	266	0.8	0.1	329	0.9	0.6	295	0.9	0.2	266	0.9	0.3	43	0.9	0.3	1199
Female	0.6	0.1	294	0.6	0.1	285	0.6	0.1	286	0.7	0.1	275	0.7	0.1	34	0.6	0.1	1174
Total	0.7	0.2	560	0.7	0.2	614	0.8	0.4	581	0.8	0.2	541	0.8	0.2	77	0.8	0.3	2373

Calcium (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	9.5	0.3	266	9.4	0.3	329	9.3	0.3	295	9.3	0.3	266	9.4	0.3	43	9.4	0.3	1199
Female	9.2	0.3	294	9.4	0.3	285	9.4	0.4	286	9.4	0.4	275	9.3	0.3	34	9.4	0.4	1174
Total	9.3	0.3	560	9.4	0.3	614	9.4	0.3	581	9.4	0.4	541	9.3	0.3	77	9.4	0.3	2373

Glutamate oxaloacetate transaminase, GOT (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	24.8	11.8	266	25.7	12.7	329	25.7	10.9	295	26.7	13.8	266	31.9	14.2	43	26.0	12.5	1199
Female	20.9	12.7	294	22.6	7.0	285	25.8	13.5	286	25.3	7.7	275	24.5	5.2	34	23.6	10.7	1174
Total	22.8	12.4	560	24.3	10.6	614	25.7	12.2	581	26.0	11.2	541	28.6	11.7	77	24.8	11.7	2373

Glutamate pyruvate transaminase, GPT (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	29.6	23.3	266	27.3	18.0	329	24.8	15.4	295	21.8	16.2	266	26.8	23.6	43	26.0	18.8	1199
Female	18.3	15.7	294	20.6	13.0	285	23.0	18.3	286	19.6	12.3	275	16.0	4.8	34	20.2	14.9	1174
Total	23.7	20.5	560	24.1	16.2	614	23.9	16.9	581	20.7	14.4	541	22.0	18.6	77	23.1	17.2	2373

Phosphorus (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.3	0.4	266	3.2	0.4	329	3.2	0.4	295	3.2	0.4	266	3.2	0.3	43	3.2	0.4	1199
Female	3.5	0.4	294	3.8	0.4	285	3.8	0.4	286	3.7	0.4	275	3.6	0.4	34	3.7	0.4	1174
Total	3.4	0.4	560	3.5	0.5	614	3.5	0.5	581	3.4	0.5	541	3.4	0.4	77	3.5	0.5	2373

Gamma-glutamyltransferase (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	54.7	54.7	266	61.6	115.4	329	52.0	49.1	295	45.6	82.9	266	32.5	22.1	43	53.1	80.5	1199
Female	22.8	37.2	294	28.4	27.6	285	29.0	27.7	286	25.5	19.6	275	32.2	63.8	34	26.6	30.5	1174
Total	38.0	49.0	560	46.2	88.1	614	40.7	41.6	581	35.4	60.6	541	32.4	45.2	77	40.0	62.5	2373

Cholinesterase (IU/l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	385.2	75.3	266	374.4	91.3	329	359.9	88.9	295	329.4	65.5	266	317.8	72.8	43	361.2	84.1	1199
Female	324.8	87.7	294	377.7	113.4	285	378.5	83.9	286	365.6	99.2	275	346.1	75.7	34	360.9	98.4	1174
Total	353.5	87.4	560	376.0	102.1	614	369.0	86.9	581	347.8	86.2	541	330.3	74.9	77	361.1	91.5	2373

Magnesium (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.4	0.1	266	2.4	0.2	329	2.4	0.2	295	2.3	0.2	266	2.3	0.2	43	2.4	0.2	1199
Female	2.3	0.2	294	2.3	0.1	285	2.4	0.2	286	2.3	0.2	275	2.3	0.1	34	2.3	0.2	1174
Total	2.3	0.2	560	2.4	0.2	614	2.4	0.2	581	2.3	0.2	541	2.3	0.1	77	2.3	0.2	2373

Lipid peroxide (nMOL/Ml)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.1	0.8	266	3.3	0.8	329	3.2	0.9	295	3.2	0.9	266	2.9	0.7	43	3.2	0.9	1199
Female	2.6	0.6	294	2.8	0.7	285	2.9	0.9	286	2.9	0.9	275	2.8	0.8	34	2.8	0.8	1174
Total	2.8	0.7	560	3.1	0.8	614	3.1	0.9	581	3.0	0.9	541	2.9	0.7	77	3.0	0.8	2373

Iron (μ g/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	116.9	39.0	266	116.3	40.4	329	118.9	38.7	295	112.9	39.1	266	111.4	35.9	43	116.2	39.2	1199
Female	97.2	46.2	294	104.2	34.1	285	109.6	30.8	286	97.7	28.5	275	101.7	37.3	34	102.2	36.1	1174
Total	106.6	44.0	560	110.7	38.1	614	114.3	35.3	581	105.2	35.0	541	107.1	36.6	77	109.2	38.3	2373

Vitamin A (IU/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	212.3	40.7	266	216.8	48.5	329	206.0	46.6	295	202.0	53.0	265	185.0	48.0	43	208.7	47.9	1198
Female	148.8	33.4	294	170.6	33.8	285	184.9	39.1	286	181.7	41.6	275	176.1	47.3	34	171.4	39.9	1174
Total	178.9	48.7	560	195.4	48.2	614	195.6	44.3	581	191.7	48.6	540	181.1	47.6	77	190.2	47.9	2372

Free triiodothyronine, Free T3 (pg/ml)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.1	0.5	266	3.0	0.4	329	2.9	0.4	295	2.8	0.6	266	2.7	0.4	43	2.9	0.5	1199
Female	2.7	0.4	294	2.8	0.4	285	2.8	0.4	286	2.8	0.3	275	2.8	0.6	34	2.8	0.4	1174
Total	2.9	0.5	560	2.9	0.4	614	2.9	0.4	581	2.8	0.5	541	2.8	0.5	77	2.9	0.4	2373

Free thyroxine, Free T4 (ng/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.3	0.2	266	1.3	0.2	329	1.2	0.2	295	1.3	0.3	266	1.2	0.2	43	1.3	0.2	1199
Female	1.2	0.2	294	1.2	0.2	285	1.2	0.2	286	1.2	0.2	275	1.2	0.2	34	1.2	0.2	1174
Total	1.3	0.2	560	1.2	0.2	614	1.2	0.2	581	1.2	0.2	541	1.2	0.2	77	1.2	0.2	2373

Thyroid stimulating hormone, TSH (μ g/ml)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.9	1.0	266	2.3	1.7	329	3.0	6.5	295	3.8	7.4	266	3.5	2.8	43	2.8	4.9	1199
Female	2.3	1.4	294	3.0	5.8	285	3.1	2.1	286	3.0	1.9	275	4.4	5.3	34	2.9	3.4	1174
Total	2.1	1.3	560	2.6	4.2	614	3.1	4.9	581	3.4	5.3	541	3.9	4.1	77	2.8	4.2	2373

Dehydroepiandrosterone sulfate, DHEA-S (ng/ml)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2153.8	884.7	266	1742.2	738.2	329	1387.4	710.3	295	1061.6	539.9	266	870.1	561.9	43	1564.0	829.9	1199
Female	1210.0	578.3	294	918.1	471.6	285	742.0	401.2	286	694.6	398.6	275	652.7	394.8	34	888.2	509.7	1174
Total	1658.3	876.8	560	1359.7	750.9	614	1069.7	662.7	581	875.1	507.4	541	774.1	503.9	77	1229.7	768.4	2373

Fasting insulin (μ U/ml)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.6	4.6	259	7.3	6.4	317	7.3	4.8	287	6.9	4.8	255	6.9	5.3	39	7.3	5.3	1157
Female	7.1	4.7	291	6.4	3.8	278	7.6	5.3	280	8.2	5.2	265	6.8	3.3	32	7.3	4.8	1146
Total	7.3	4.7	550	6.9	5.4	595	7.4	5.1	567	7.6	5.0	520	6.8	4.5	71	7.3	5.0	2303

Sialic acid (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	61.0	7.1	266	61.2	7.3	329	63.3	8.0	295	64.8	9.2	265	66.3	9.7	43	62.7	8.2	1198
Female	59.5	7.9	294	61.0	7.4	285	63.4	7.4	286	64.7	7.8	275	64.1	6.9	34	62.2	7.9	1174
Total	60.2	7.6	560	61.1	7.3	614	63.3	7.7	581	64.8	8.5	540	65.3	8.6	77	62.4	8.0	2372

HDL-cholesterol (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	58.9	13.9	266	58.3	14.2	329	56.3	13.7	295	57.1	15.5	266	58.1	14.8	43	57.7	14.3	1199
Female	71.8	14.7	294	69.1	14.8	285	64.9	14.1	286	64.7	17.4	275	65.7	13.4	34	67.6	15.5	1174
Total	65.7	15.7	560	63.3	15.4	614	60.5	14.5	581	60.9	16.9	541	61.5	14.6	77	62.6	15.7	2373

Fasting glucose (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	98.5	17.2	258	105.2	24.5	316	106.8	25.0	287	107.5	24.4	255	101.8	19.1	39	104.5	23.2	1155
Female	93.2	18.8	289	97.8	23.5	278	98.8	17.7	280	102.9	20.6	264	98.2	13.4	32	98.1	20.3	1143
Total	95.7	18.3	547	101.7	24.3	594	102.8	22.0	567	105.2	22.6	519	100.2	16.8	71	101.3	22.1	2298

Hemoglobin A1c (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	5.0	0.5	265	5.3	0.8	327	5.5	1.0	295	5.5	0.9	265	5.4	0.7	42	5.3	0.8	1194
Female	5.0	0.7	292	5.3	0.9	284	5.3	0.6	285	5.4	0.7	273	5.3	0.5	33	5.2	0.7	1167
Total	5.0	0.6	557	5.3	0.8	611	5.4	0.8	580	5.4	0.8	538	5.3	0.6	75	5.3	0.8	2361

Albumin (mg/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	4619.1	326.3	266	4502.9	322.2	329	4397.7	292.1	295	4354.8	327.0	266	4241.4	268.5	43	4460.6	332.2	1199
Female	4456.5	311.8	294	4431.6	299.6	285	4417.1	308.2	286	4333.4	307.6	275	4350.9	334.4	34	4409.0	310.6	1174
Total	4533.7	328.7	560	4469.8	313.7	614	4407.3	300.0	581	4343.9	317.2	541	4289.7	302.3	77	4435.0	322.7	2373

2) Serum fatty acid

Dihomo-gamma-linolenic acid, DHLA ($\mu\text{g/ml}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	35.3	11.6	266	32.0	10.9	329	33.1	11.2	295	31.0	10.2	265	29.8	7.4	43	32.7	11.0	1198
Female	28.9	10.6	294	33.5	11.5	285	36.6	12.1	286	37.2	12.2	275	36.5	15.7	34	34.1	12.2	1174
Total	32.0	11.5	560	32.7	11.2	614	34.8	11.8	581	34.1	11.7	540	32.8	12.2	77	33.4	11.6	2372

Arachidonic acid, AA ($\mu\text{g/ml}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	176.4	43.5	266	169.1	37.9	329	161.5	35.6	295	157.2	35.2	265	150.0	29.0	43	165.5	38.5	1198
Female	166.6	37.0	294	178.4	36.1	285	175.1	36.8	286	172.3	37.8	275	165.0	30.8	34	172.8	37.0	1174
Total	171.3	40.5	560	173.4	37.3	614	168.2	36.8	581	164.9	37.3	540	156.6	30.5	77	169.2	37.9	2372

Eicosapentaenoic acid, EPA ($\mu\text{g/ml}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	65.4	37.5	266	88.3	45.3	329	94.2	48.7	295	94.3	53.6	265	73.6	35.9	43	85.5	47.6	1198
Female	57.1	30.8	294	78.9	45.6	285	89.8	41.5	286	87.4	42.7	275	84.0	50.1	34	78.2	42.7	1174
Total	61.0	34.3	560	84.0	45.6	614	92.0	45.3	581	90.8	48.5	540	78.2	42.8	77	81.9	45.4	2372

Docosahexaenoic acid, DHA ($\mu\text{g/ml}$)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	146.2	61.4	266	167.3	60.7	329	175.4	54.8	295	171.3	53.9	265	158.6	45.4	43	165.2	58.4	1198
Female	127.2	39.1	294	156.8	43.4	285	181.3	45.6	286	177.4	47.7	275	165.7	48.1	34	160.4	48.9	1174
Total	136.2	51.7	560	162.4	53.5	614	178.3	50.5	581	174.4	50.9	540	161.8	46.4	77	162.8	54.0	2372

3) Complete blood cell count

White blood cell count (μ l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	6088.7	1726.9	265	6053.4	1725.3	328	5722.7	1515.7	295	5747.0	1474.0	266	5914.0	1293.9	43	5906.6	1613.8	1197
Female	5117.8	1442.0	292	5055.4	1418.8	285	5125.2	1295.7	286	5388.3	1549.1	274	5326.5	1380.9	34	5173.8	1429.9	1171
Total	5579.7	1655.2	557	5589.4	1665.2	613	5428.6	1441.8	581	5565.0	1521.8	540	5654.5	1356.2	77	5544.2	1568.7	2368

Red blood cell count ($\times 10000/\mu$ l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	507.2	36.7	265	497.6	36.4	328	490.9	44.3	295	476.8	51.9	266	462.0	37.0	43	492.2	43.9	1197
Female	450.1	37.1	292	457.1	35.5	285	452.7	37.4	286	449.8	39.9	274	424.0	36.8	34	451.6	37.8	1171
Total	477.3	46.6	557	478.8	41.3	613	472.1	45.3	581	463.1	48.1	540	445.2	41.3	77	472.1	45.7	2368

Hemoglobin (g/dl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	16.0	1.1	265	15.9	1.1	328	15.7	1.3	295	15.2	1.6	266	14.7	1.1	43	15.7	1.3	1197
Female	13.5	1.5	292	14.0	1.1	285	14.1	1.1	286	13.9	1.2	274	13.2	1.3	34	13.8	1.3	1171
Total	14.7	1.9	557	15.0	1.4	613	14.9	1.4	581	14.6	1.5	540	14.0	1.4	77	14.8	1.6	2368

Hematocrit (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	48.5	3.3	265	48.3	3.1	328	47.8	3.8	295	46.5	4.6	266	45.1	3.4	43	47.7	3.8	1197
Female	41.6	4.0	292	43.2	3.2	285	43.4	3.2	286	43.3	3.7	274	40.7	3.6	34	42.8	3.6	1171
Total	44.9	5.0	557	45.9	4.0	613	45.7	4.2	581	44.9	4.5	540	43.1	4.1	77	45.3	4.5	2368

MCV (fl)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	95.8	4.9	265	97.2	4.8	328	97.6	5.0	295	97.8	5.5	266	97.8	5.1	43	97.1	5.1	1197
Female	92.6	6.9	292	94.7	4.6	285	96.1	4.2	286	96.3	4.4	274	96.0	3.7	34	94.9	5.3	1171
Total	94.1	6.3	557	96.0	4.8	613	96.9	4.7	581	97.0	5.0	540	97.0	4.6	77	96.0	5.3	2368

MCH (pg)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	31.7	1.8	265	32.1	1.6	328	32.1	1.8	295	32.0	2.1	266	31.9	1.8	43	32.0	1.8	1197
Female	30.0	2.9	292	30.7	1.6	285	31.1	1.3	286	31.1	1.7	274	31.1	1.8	34	30.7	2.0	1171
Total	30.8	2.6	557	31.4	1.8	613	31.6	1.6	581	31.5	1.9	540	31.5	1.8	77	31.3	2.0	2368

MCHC (%)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	33.1	1.1	265	33.0	1.1	328	32.8	1.0	295	32.7	1.2	266	32.6	1.1	43	32.9	1.1	1197
Female	32.3	1.5	292	32.4	1.1	285	32.4	1.1	286	32.3	1.1	274	32.4	1.2	34	32.3	1.2	1171
Total	32.7	1.4	557	32.7	1.2	613	32.6	1.1	581	32.5	1.2	540	32.5	1.1	77	32.6	1.2	2368

Platelet count (x10000/ μ l)

	40 - 49yr			50 - 59yr			60 - 69yr			70 - 79yr			80yr -			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	22.0	5.3	264	21.5	5.1	325	20.4	5.5	289	19.4	5.5	263	18.2	5.2	42	20.8	5.4	1183
Female	23.3	6.4	291	21.7	5.4	284	21.5	5.1	285	21.1	6.1	271	21.6	5.5	34	21.9	5.8	1165
Total	22.7	5.9	555	21.6	5.2	609	20.9	5.3	574	20.3	5.8	534	19.7	5.6	76	21.3	5.6	2348

4) Urine analysis

Urine analysis (Semiquantitative urine test tape, Uriace, Termo, Inc.)

Hemoglobin

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	246	95.0	293	92.1	262	90.7	222	86.7	30	76.9	1053	90.7
	Female	226	87.3	213	77.7	204	72.9	202	76.5	24	75.0	869	78.4
	Total	472	91.1	506	85.5	466	81.9	424	81.5	54	76.1	1922	84.7
10/ μ l	Male	8	3.1	18	5.7	22	7.6	28	10.9	8	20.5	84	7.2
	Female	24	9.3	44	16.1	53	18.9	44	16.7	4	12.5	169	15.2
	Total	32	6.2	62	10.5	75	13.2	72	13.8	12	16.9	253	11.1
50/ μ l	Male	4	1.5	7	2.2	5	1.7	6	2.3	1	2.6	23	2.0
	Female	7	2.7	16	5.8	23	8.2	18	6.8	4	12.5	68	6.1
	Total	11	2.1	23	3.9	28	4.9	24	4.6	5	7.0	91	4.0
250/ μ l	Male	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
	Female	2	0.8	1	0.4	0	0.0	0	0.0	0	0.0	3	0.3
	Total	3	0.6	1	0.2	0	0.0	0	0.0	0	0.0	4	0.2

Hematuria

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	235	90.7	288	90.6	261	90.3	232	90.6	37	94.9	1053	90.7
	Female	235	90.7	244	89.1	247	88.2	222	84.1	25	78.1	973	87.7
	Total	470	90.7	532	89.9	508	89.3	454	87.3	62	87.3	2026	89.3
10/ μ l	Male	22	8.5	25	7.9	28	9.7	23	9.0	2	5.1	100	8.6
	Female	22	8.5	25	9.1	28	10.0	38	14.4	6	18.8	119	10.7
	Total	44	8.5	50	8.4	56	9.8	61	11.7	8	11.3	219	9.6
50/ μ l	Male	2	0.8	4	1.3	0	0.0	1	0.4	0	0.0	7	0.6
	Female	1	0.4	5	1.8	4	1.4	4	1.5	1	3.1	15	1.4
	Total	3	0.6	9	1.5	4	0.7	5	1.0	1	1.4	22	1.0
250/ μ l	Male	0	0.0	1	0.3	0	0.0	0	0.0	0	0.0	1	0.1
	Female	1	0.4	0	0.0	1	0.4	0	0.0	0	0.0	2	0.2
	Total	1	0.2	1	0.2	1	0.2	0	0.0	0	0.0	3	0.1

Ketone

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	254	98.1	310	97.5	286	99.0	249	97.3	37	94.9	1136	97.8
	Female	253	97.7	271	98.9	279	99.6	258	97.7	32	100.0	1093	98.6
	Total	507	97.9	581	98.1	565	99.3	507	97.5	69	97.2	2229	98.2
10mg/dl	Male	5	1.9	7	2.2	2	0.7	6	2.3	2	5.1	22	1.9
	Female	5	1.9	3	1.1	1	0.4	6	2.3	0	0.0	15	1.4
	Total	10	1.9	10	1.7	3	0.5	12	2.3	2	2.8	37	1.6
50mg/dl	Male	0	0.0	1	0.3	1	0.3	1	0.4	0	0.0	3	0.3
	Female	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
	Total	1	0.2	1	0.2	1	0.2	1	0.2	0	0.0	4	0.2

Bilirubin

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	258	100.0	318	100.0	289	100.0	256	100.0	39	100.0	1160	100.0
	Female	259	100.0	274	100.0	279	100.0	264	100.0	32	100.0	1108	100.0
	Total	517	100.0	592	100.0	568	100.0	520	100.0	71	100.0	2268	100.0

Urobilinogen

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
0.5mg/dl	Male	244	94.2	304	95.6	282	97.6	247	96.5	38	97.4	1115	96.0
	Female	255	98.5	272	99.3	278	99.3	261	98.9	31	96.9	1097	98.9
	Total	499	96.3	576	97.3	560	98.4	508	97.7	69	97.2	2212	97.4
2mg/dl	Male	14	5.4	12	3.8	6	2.1	8	3.1	1	2.6	41	3.5
	Female	3	1.2	2	0.7	2	0.7	3	1.1	1	3.1	11	1.0
	Total	17	3.3	14	2.4	8	1.4	11	2.1	2	2.8	52	2.3
4mg/dl	Male	1	0.4	2	0.6	1	0.3	1	0.4	0	0.0	5	0.4
	Female	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
	Total	2	0.4	2	0.3	1	0.2	1	0.2	0	0.0	6	0.3

Protein

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	230	88.8	284	89.3	255	88.2	210	82.0	29	74.4	1008	86.8
	Female	228	88.0	257	93.8	248	88.6	223	84.5	28	87.5	984	88.7
	Total	458	88.4	541	91.4	503	88.4	433	83.3	57	80.3	1992	87.8
±	Male	20	7.7	22	6.9	16	5.5	20	7.8	3	7.7	81	7.0
	Female	21	8.1	13	4.7	22	7.9	23	8.7	3	9.4	82	7.4
	Total	41	7.9	35	5.9	38	6.7	43	8.3	6	8.5	163	7.2
30mg/dl	Male	8	3.1	9	2.8	13	4.5	12	4.7	4	10.3	46	4.0
	Female	7	2.7	4	1.5	7	2.5	14	5.3	0	0.0	32	2.9
	Total	15	2.9	13	2.2	20	3.5	26	5.0	4	5.6	78	3.4
100mg/dl	Male	1	0.4	3	0.9	5	1.7	11	4.3	3	7.7	23	2.0
	Female	2	0.8	0	0.0	2	0.7	4	1.5	0	0.0	8	0.7
	Total	3	0.6	3	0.5	7	1.2	15	2.9	3	4.2	31	1.4
250mg/dl	Male	0	0.0	0	0.0	0	0.0	3	1.2	0	0.0	3	0.3
	Female	1	0.4	0	0.0	1	0.4	0	0.0	1	3.1	3	0.3
	Total	1	0.2	0	0.0	1	0.2	3	0.6	1	1.4	6	0.3

Glucose

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	256	98.8	304	95.6	276	95.5	243	94.9	37	94.9	1116	96.1
	Female	257	99.2	270	98.5	278	99.3	262	99.2	32	100.0	1099	99.1
	Total	513	99.0	574	97.0	554	97.4	505	97.1	69	97.2	2215	97.6
±	Male	0	0.0	4	1.3	4	1.4	3	1.2	1	2.6	12	1.0
	Female	0	0.0	1	0.4	1	0.4	1	0.4	0	0.0	3	0.3
	Total	0	0.0	5	0.8	5	0.9	4	0.8	1	1.4	15	0.7
150mg/dl	Male	2	0.8	6	1.9	5	1.7	7	2.7	1	2.6	21	1.8
	Female	0	0.0	2	0.7	1	0.4	1	0.4	0	0.0	4	0.4
	Total	2	0.4	8	1.4	6	1.1	8	1.5	1	1.4	25	1.1
500mg/dl	Male	1	0.4	2	0.6	2	0.7	2	0.8	0	0.0	7	0.6
	Female	1	0.4	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
	Total	2	0.4	2	0.3	2	0.4	2	0.4	0	0.0	8	0.4
2000mg/dl	Male	0	0.0	2	0.6	2	0.7	1	0.4	0	0.0	5	0.4
	Female	1	0.4	1	0.4	0	0.0	0	0.0	0	0.0	2	0.2
	Total	1	0.2	3	0.5	2	0.4	1	0.2	0	0.0	7	0.3

pH

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
pH5	Male	127	49.0	159	50.0	131	45.3	113	44.1	16	41.0	546	47.0
	Female	133	51.4	145	52.9	120	42.9	114	43.2	16	50.0	528	47.6
	Total	260	50.2	304	51.4	251	44.1	227	43.7	32	45.1	1074	47.3
pH6	Male	76	29.3	91	28.6	84	29.1	81	31.6	16	41.0	348	30.0
	Female	72	27.8	72	26.3	91	32.5	76	28.8	7	21.9	318	28.7
	Total	148	28.6	163	27.5	175	30.8	157	30.2	23	32.4	666	29.3
pH7	Male	51	19.7	63	19.8	71	24.6	59	23.0	7	17.9	251	21.6
	Female	46	17.8	55	20.1	60	21.4	66	25.0	9	28.1	236	21.3
	Total	97	18.7	118	19.9	131	23.0	125	24.0	16	22.5	487	21.5
pH8	Male	5	1.9	5	1.6	3	1.0	3	1.2	0	0.0	16	1.4
	Female	8	3.1	2	0.7	9	3.2	8	3.0	0	0.0	27	2.4
	Total	13	2.5	7	1.2	12	2.1	11	2.1	0	0.0	43	1.9

Nitrite

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
negative	Male	259	100.0	318	100.0	288	99.7	256	100.0	39	100.0	1160	99.9
	Female	258	99.6	271	98.9	277	98.9	257	97.3	32	100.0	1095	98.7
	Total	517	99.8	589	99.5	565	99.3	513	98.7	71	100.0	2255	99.3
positive	Male	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0	1	0.1
	Female	1	0.4	3	1.1	3	1.1	7	2.7	0	0.0	14	1.3
	Total	1	0.2	3	0.5	4	0.7	7	1.3	0	0.0	15	0.7

VII. Psychological Examinations

VII. Psychological Examinations

1) Depressive symptoms

- 1.Center for Epidemiologic Studies Depression Scale (CES-D)
- 2.Geriatric Depression Scale (GDS)

2) Subjective Well-being

- 1.Life Satisfaction Index-K (LSI-K)

3) Personality

- 1.Rosenberg Self-Esteem Scale
- 2.Locus of Control
- 3.The Scale of Attitude toward Death (ATD)

4) Social Relations

1. Social Exchanges

5) Stress-Related Factors

1. Stress Checklist
2. Stress Coping Scale

6) Activities of Daily Living

1. Tokyo Metropolitan Institute of Gerontology (TMIG) Index of Competence
2. Katz Index

7) Intelligence and Cognitive Function

1. Wechsler Adult Intelligence Scale-Revised Short Forms (WAIS-R-SF)
2. Mini Mental State Examination (MMSE)

8) Other measures

1. Age awareness
2. Social and Domestic Activities

1) Depression Scales

1. The Center for Epidemiologic Studies Depression Scale (CES-D)

The Japanese version of the scale comprises 20 items with 4 options, the same as the original. This scale consists of 4 subscales as follows: somatic and retarded activity, depressed affect, positive affect, and interpersonal relations. Higher scores indicate higher depressive symptoms. A person with total score at and above 16 is supposed to have clinically significant depressive tendency.

CES-D :total score of 4 subscales (20 items. possible range 0-60)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	7.4	6.5	265	7.2	6.8	329	6.7	6.7	289	7.8	6.9	261	8.9	7.3	39	7.3	6.7	1183
Female	8.3	7.3	292	7.3	6.5	278	7.7	7.3	284	8.4	7.4	264	10.2	7.7	33	8.0	7.1	1151
Total	7.9	6.9	557	7.3	6.6	607	7.2	7.0	573	8.1	7.1	525	9.5	7.5	72	7.7	6.9	2334

CES-D subscale 1: somatic and retarded activity (7 items. possible range 0-21)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	2.3	2.7	265	2.4	2.7	331	2.3	2.7	293	2.8	3.3	267	2.9	3.0	40	2.4	2.9	1196
Female	2.7	2.8	293	2.5	2.7	282	2.7	3.1	285	3.2	3.2	269	4.2	3.9	34	2.8	3.0	1163
Total	2.5	2.8	558	2.4	2.7	613	2.5	2.9	578	3.0	3.3	536	3.5	3.4	74	2.6	2.9	2359

CES-D subscale 2: depressed affect (7 items. possible range 0-21)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	1.8	2.4	266	1.7	2.3	330	1.5	2.4	294	1.6	2.1	262	2.0	2.4	40	1.7	2.3	1192
Female	2.1	2.9	294	1.8	2.6	283	1.8	2.6	286	2.2	2.8	270	2.3	2.4	33	2.0	2.7	1166
Total	2.0	2.7	560	1.7	2.4	613	1.7	2.5	580	1.9	2.5	532	2.1	2.4	73	1.8	2.5	2358

CES-D subscale 3: positive affect (4 items. possible range 0-12)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	3.0	2.5	266	2.8	2.6	330	2.6	2.6	297	3.1	2.9	267	3.5	2.7	42	2.9	2.6	1202
Female	3.3	2.7	293	2.7	2.5	283	2.9	2.8	286	2.9	2.7	275	3.6	3.2	34	3.0	2.7	1171
Total	3.1	2.6	559	2.8	2.5	613	2.7	2.7	583	3.0	2.8	542	3.5	2.9	76	2.9	2.7	2373

CES-D subscale 4: interpersonal relations (2 items, possible range 0-6)

	40-49yr			50-59yr			60-69yr			70-79yr			80yr-			Total		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Male	0.3	0.8	266	0.4	0.9	331	0.3	0.7	296	0.3	0.7	264	0.5	0.8	42	0.3	0.8	1199
Female	0.3	0.7	294	0.2	0.6	285	0.3	0.7	285	0.3	0.9	275	0.3	0.8	34	0.3	0.7	1173
Total	0.3	0.7	560	0.3	0.8	616	0.3	0.7	581	0.3	0.8	539	0.4	0.8	76	0.3	0.8	2372

CES-D: parameter of distribution using cutoff score

		40-49yr		50-59yr		60-69yr		70-79yr		80yr-		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Under score of 16	Male	246	92.8	291	88.4	261	90.3	226	86.6	31	79.5	1055	89.2
	Female	251	86.0	248	89.2	243	85.6	220	83.3	25	75.8	987	85.8
	Total	497	89.2	539	88.8	504	88.0	446	85.0	56	77.8	2042	87.5
At and above score of 16	Male	19	7.2	38	11.6	28	9.7	35	13.4	8	20.5	128	10.8
	Female	41	14.0	30	10.8	41	14.4	44	16.7	8	24.2	164	14.2
	Total	60	10.8	68	11.2	69	12.0	79	15.0	16	22.2	292	12.5