

Frequency of intakes
Green tea

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Male	not recorded	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	1	0.1
	Never	21	11.4	15	9.6	18	11.1	14	8.2	3	5.8	71	9.8
	Once a month	3	1.6	1	0.6	3	1.9	0	0.0	0	0.0	7	1.0
	2 to 3 times a mo.	6	3.2	1	0.6	0	0.0	0	0.0	1	1.9	8	1.1
	Once a week	5	2.7	3	1.9	2	1.2	1	0.6	0	0.0	11	1.5
	2 to 3 times a week	13	7.0	6	3.8	2	1.2	1	0.6	0	0.0	22	3.0
	4 to 6 times a week	6	3.2	7	4.5	2	1.2	3	1.8	0	0.0	18	2.5
	Once a day or more	131	70.8	123	78.8	134	82.7	151	88.8	48	92.3	587	81.0
Female	not recorded	0	0.0	1	0.7	0	0.0	0	0.0	0	0.0	1	0.1
	Never	25	12.8	14	9.5	5	3.1	4	2.4	2	3.8	50	6.9
	Once a month	7	3.6	0	0.0	1	0.6	3	1.8	0	0.0	11	1.5
	2 to 3 times a mo.	6	3.1	2	1.4	0	0.0	1	0.6	2	3.8	11	1.5
	Once a week	7	3.6	3	2.0	1	0.6	2	1.2	0	0.0	13	1.8
	2 to 3 times a week	15	7.7	6	4.1	4	2.5	4	2.4	1	1.9	30	4.2
	4 to 6 times a week	16	8.2	4	2.7	4	2.5	1	0.6	0	0.0	25	3.5
	Once a day or more	119	61.0	118	79.7	144	90.6	152	91.0	48	90.6	581	80.5
Total	not recorded	0	0.0	1	0.3	1	0.3	0	0.0	0	0.0	2	0.1
	Never	46	12.1	29	9.5	23	7.2	18	5.3	5	4.8	121	8.4
	Once a month	10	2.6	1	0.3	4	1.2	3	0.9	0	0.0	18	1.2
	2 to 3 times a mo.	12	3.2	3	1.0	0	0.0	1	0.3	3	2.9	19	1.3
	Once a week	12	3.2	6	2.0	3	0.9	3	0.9	0	0.0	24	1.7
	2 to 3 times a week	28	7.4	12	3.9	6	1.9	5	1.5	1	1.0	52	3.6
	4 to 6 times a week	22	5.8	11	3.6	6	1.9	4	1.2	0	0.0	43	3.0
	Once a day or more	250	65.8	241	79.3	278	86.6	303	89.9	96	91.4	1168	80.7

Frequency of intakes
Oolong tea

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Male	Never	89	48.1	76	48.7	95	58.6	117	68.8	43	82.7	420	57.9
	Once a month	11	5.9	10	6.4	8	4.9	11	6.5	3	5.8	43	5.9
	2 to 3 times a mo.	18	9.7	7	4.5	9	5.6	7	4.1	0	0.0	41	5.7
	Once a week	13	7.0	12	7.7	14	8.6	5	2.9	1	1.9	45	6.2
	2 to 3 times a week	11	5.9	8	5.1	8	4.9	8	4.7	3	5.8	38	5.2
	4 to 6 times a week	5	2.7	5	3.2	3	1.9	4	2.4	0	0.0	17	2.3
	Once a day or more	38	20.5	38	24.4	25	15.4	18	10.6	2	3.8	121	16.7
Female	Never	110	56.4	82	55.4	91	57.2	116	69.5	44	83.0	443	61.4
	Once a month	13	6.7	11	7.4	18	11.3	13	7.8	1	1.9	56	7.8
	2 to 3 times a mo.	11	5.6	7	4.7	14	8.8	13	7.8	4	7.5	49	6.8
	Once a week	10	5.1	8	5.4	2	1.3	2	1.2	1	1.9	23	3.2
	2 to 3 times a week	13	6.7	6	4.1	12	7.5	11	6.6	1	1.9	43	6.0
	4 to 6 times a week	4	2.1	6	4.1	1	0.6	1	0.6	1	1.9	13	1.8
	Once a day or more	34	17.4	28	18.9	21	13.2	11	6.6	1	1.9	95	13.2
Total	Never	199	52.4	158	52.0	186	57.9	233	69.1	87	82.9	863	59.6
	Once a month	24	6.3	21	6.9	26	8.1	24	7.1	4	3.8	99	6.8
	2 to 3 times a mo.	29	7.6	14	4.6	23	7.2	20	5.9	4	3.8	90	6.2
	Once a week	23	6.1	20	6.6	16	5.0	7	2.1	2	1.9	68	4.7
	2 to 3 times a week	24	6.3	14	4.6	20	6.2	19	5.6	4	3.8	81	5.6
	4 to 6 times a week	9	2.4	11	3.6	4	1.2	5	1.5	1	1.0	30	2.1
	Once a day or more	72	18.9	66	21.7	46	14.3	29	8.6	3	2.9	216	14.9

Frequency of intakes
Satsuma mandarin (Nikan)

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Male	Never	33	17.8	16	10.3	15	9.3	12	7.1	5	9.6	81	11.2
	Once a month	11	5.9	8	5.1	5	3.1	2	1.2	2	3.8	28	3.9
	2 to 3 times a mo.	19	10.3	7	4.5	4	2.5	1	0.6	1	1.9	32	4.4
	Once a week	30	16.2	19	12.2	11	6.8	10	5.9	4	7.7	74	10.2
	2 to 3 times a week	42	22.7	44	28.2	47	29.0	31	18.2	7	13.5	171	23.6
	4 to 6 times a week	13	7.0	4	2.6	6	3.7	16	9.4	6	11.5	45	6.2
	Once a day or more	37	20.0	58	37.2	74	45.7	98	57.6	27	51.9	294	40.6
Female	Never	20	10.3	8	5.4	7	4.4	7	4.2	3	5.7	45	6.2
	Once a month	7	3.6	4	2.7	0	0.0	2	1.2	0	0.0	13	1.8
	2 to 3 times a mo.	13	6.7	3	2.0	5	3.1	1	0.6	1	1.9	23	3.2
	Once a week	19	9.7	13	8.8	9	5.7	4	2.4	5	9.4	50	6.9
	2 to 3 times a week	53	27.2	33	22.3	20	12.6	21	12.6	7	13.2	134	18.6
	4 to 6 times a week	8	4.1	13	8.8	8	5.0	13	7.8	5	9.4	47	6.5
	Once a day or more	75	38.5	74	50.0	110	69.2	119	71.3	32	60.4	410	56.8
Total	Never	53	13.9	24	7.9	22	6.9	19	5.6	8	7.6	126	8.7
	Once a month	18	4.7	12	3.9	5	1.6	4	1.2	2	1.9	41	2.8
	2 to 3 times a mo.	32	8.4	10	3.3	9	2.8	2	0.6	2	1.9	55	3.8
	Once a week	49	12.9	32	10.5	20	6.2	14	4.2	9	8.6	124	8.6
	2 to 3 times a week	95	25.0	77	25.3	67	20.9	52	15.4	14	13.3	305	21.1
	4 to 6 times a week	21	5.5	17	5.6	14	4.4	29	8.6	11	10.5	92	6.4
	Once a day or more	112	29.5	132	43.4	184	57.3	217	64.4	59	56.2	704	48.7

Frequency of intakes
Citrus fruit

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Male	Never	99	53.5	68	43.6	67	41.4	69	40.6	25	48.1	328	45.2
	Once a month	26	14.1	17	10.9	14	8.6	11	6.5	5	9.6	73	10.1
	2 to 3 times a mo.	18	9.7	22	14.1	15	9.3	14	8.2	2	3.8	71	9.8
	Once a week	17	9.2	26	16.7	26	16.0	18	10.6	10	19.2	97	13.4
	2 to 3 times a week	17	9.2	13	8.3	25	15.4	26	15.3	5	9.6	86	11.9
	4 to 6 times a week	3	1.6	3	1.9	6	3.7	2	1.2	2	3.8	16	2.2
	Once a day or more	5	2.7	7	4.5	9	5.6	30	17.6	3	5.8	54	7.4
Female	Never	68	34.9	46	31.1	34	21.4	34	20.4	13	24.5	195	27.0
	Once a month	26	13.3	11	7.4	4	2.5	9	5.4	2	3.8	52	7.2
	2 to 3 times a mo.	38	19.5	24	16.2	19	11.9	17	10.2	10	18.9	108	15.0
	Once a week	27	13.8	27	18.2	17	10.7	25	15.0	6	11.3	102	14.1
	2 to 3 times a week	22	11.3	20	13.5	47	29.6	35	21.0	7	13.2	131	18.1
	4 to 6 times a week	7	3.6	6	4.1	3	1.9	5	3.0	1	1.9	22	3.0
	Once a day or more	7	3.6	14	9.5	35	22.0	42	25.1	14	26.4	112	15.5
Total	Never	167	43.9	114	37.5	101	31.5	103	30.6	38	36.2	523	36.1
	Once a month	52	13.7	28	9.2	18	5.6	20	5.9	7	6.7	125	8.6
	2 to 3 times a mo.	56	14.7	46	15.1	34	10.6	31	9.2	12	11.4	179	12.4
	Once a week	44	11.6	53	17.4	43	13.4	43	12.8	16	15.2	199	13.8
	2 to 3 times a week	39	10.3	33	10.9	72	22.4	61	18.1	12	11.4	217	15.0
	4 to 6 times a week	10	2.6	9	3.0	9	2.8	7	2.1	3	2.9	38	2.6
	Once a day or more	12	3.2	21	6.9	44	13.7	72	21.4	17	16.2	166	11.5

Frequency of intakes
Orange juice

		40 - 49yr		50 - 59yr		60 - 69yr		70 - 79yr		80yr -		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Male	Never	98	53.0	110	70.5	137	84.6	139	81.8	47	90.4	531	73.2
	Once a month	37	20.0	11	7.1	8	4.9	9	5.3	2	3.8	67	9.2
	2 to 3 times a mo.	28	15.1	11	7.1	6	3.7	6	3.5	1	1.9	52	7.2
	Once a week	7	3.8	14	9.0	5	3.1	6	3.5	1	1.9	33	4.6
	2 to 3 times a week	8	4.3	6	3.8	4	2.5	5	2.9	0	0.0	23	3.2
	4 to 6 times a week	1	0.5	2	1.3	1	0.6	1	0.6	0	0.0	5	0.7
	Once a day or more	6	3.2	2	1.3	1	0.6	4	2.4	1	1.9	14	1.9
Female	Never	131	67.2	108	73.0	135	84.9	143	85.6	46	86.8	563	78.0
	Once a month	29	14.9	16	10.8	6	3.8	7	4.2	4	7.5	62	8.6
	2 to 3 times a mo.	19	9.7	7	4.7	4	2.5	6	3.6	2	3.8	38	5.3
	Once a week	7	3.6	10	6.8	4	2.5	3	1.8	0	0.0	24	3.3
	2 to 3 times a week	6	3.1	4	2.7	10	6.3	8	4.8	1	1.9	29	4.0
	4 to 6 times a week	2	1.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3
	Once a day or more	1	0.5	3	2.0	0	0.0	0	0.0	0	0.0	4	0.6
Total	Never	229	60.3	218	71.7	272	84.7	282	83.7	93	88.6	1094	75.6
	Once a month	66	17.4	27	8.9	14	4.4	16	4.7	6	5.7	129	8.9
	2 to 3 times a mo.	47	12.4	18	5.9	10	3.1	12	3.6	3	2.9	90	6.2
	Once a week	14	3.7	24	7.9	9	2.8	9	2.7	1	1.0	57	3.9
	2 to 3 times a week	14	3.7	10	3.3	14	4.4	13	3.9	1	1.0	52	3.6
	4 to 6 times a week	3	0.8	2	0.7	1	0.3	1	0.3	0	0.0	7	0.5
	Once a day or more	7	1.8	5	1.6	1	0.3	4	1.2	1	1.0	18	1.2

Average ethanol intakes per day (ml/day)
Japanese sake

	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	6.9	185	4.5	12.3	156	5.0	12.1	162	5.2	11.8	168	8.4	14.3	52	4.4	11.3	723
Female	0.3	1.6	195	0.1	0.4	148	0.2	1.4	159	0.3	1.4	167	0.0	0.3	53	0.2	1.3	722
Total	1.1	5.0	380	2.3	9.1	304	2.6	9.0	321	2.7	8.8	335	4.2	10.9	105	2.3	8.3	1445

Average ethanol intakes per day (ml/day)
Japanese distilled alcoholic beverages (Shochu)

	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	10.3	21.4	185	16.9	32.3	154	13.6	24.7	160	7.8	18.2	167	2.0	8.4	52	11.3	24.0	718
Female	1.0	4.1	195	1.6	8.1	148	0.5	3.5	159	0.8	5.0	166	0.0	0.1	53	0.9	5.2	721
Total	5.5	15.9	380	9.4	24.9	302	7.1	18.9	319	4.3	13.8	333	1.0	6.0	105	6.1	18.1	1439

Average ethanol intakes per day (ml/day)
shochu-based beverage (Chuhai)

	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	1.1	3.2	185	0.2	0.9	156	0.2	1.2	162	0.3	1.9	170	0.4	1.4	52	0.5	2.0	725
Female	0.6	1.6	195	0.2	0.9	148	0.1	0.8	159	0.1	0.6	167	0.1	0.6	53	0.3	1.1	722
Total	0.8	2.5	380	0.2	0.9	304	0.1	1.0	321	0.2	1.4	337	0.3	1.1	105	0.4	1.6	1447

Average ethanol intakes per day (ml/day)
Regular or draft beer

	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	9.0	11.8	184	11.7	14.8	153	8.1	13.0	159	4.2	8.0	168	2.9	7.6	52	7.8	12.1	716
Female	2.7	6.9	195	2.3	6.6	146	1.2	3.7	159	1.0	4.7	167	1.0	3.2	53	1.8	5.6	720
Total	5.8	10.1	379	7.1	12.5	299	4.6	10.2	318	2.6	6.7	335	1.9	5.9	105	4.8	9.9	1436

Average ethanol intakes per day (ml/day)
Wine

	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	0.7	3.8	185	0.7	3.6	156	0.4	1.2	162	0.1	0.3	170	0.2	0.9	52	0.4	2.6	725
Female	0.5	3.9	195	0.6	2.4	148	0.1	0.6	159	0.2	1.6	167	0.0	0.0	53	0.3	2.4	722
Total	0.6	3.8	380	0.7	3.1	304	0.2	1.0	321	0.1	1.2	337	0.1	0.6	105	0.4	2.5	1447

Average ethanol intakes per day (ml/day)
Hard liquor (such as whisky, brandy, gin, vodka, rum, cocktails, etc.)

	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	1.0	5.9	185	0.6	4.2	156	1.5	11.8	162	1.7	10.9	169	0.6	2.9	52	1.2	8.5	724
Female	0.0	0.2	195	0.1	0.4	148	0.3	3.7	159	0.1	0.8	167	0.1	0.7	53	0.1	1.8	722
Total	0.5	4.2	380	0.3	3.0	304	0.9	8.7	321	0.9	7.8	336	0.3	2.1	105	0.6	6.2	1446

Average ethanol intakes per day (ml/day)
Total alcohol

	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	15.0	24.6	185	23.0	34.7	154	20.8	29.5	160	15.2	23.4	165	11.6	18.4	52	17.8	27.8	716
Female	2.4	7.1	195	2.6	8.9	148	1.2	5.3	159	1.4	5.9	166	0.3	1.0	53	1.8	6.7	721
Total	8.5	18.9	380	13.0	27.5	302	11.0	23.4	319	8.3	18.4	331	5.9	14.1	105	9.8	21.7	1437

Average intakes per day (ml/day)
Coffee

	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	363.7	300.6	184	342.7	268.5	156	254.9	222.7	162	185.8	226.0	170	126.7	120.2	52	276.1	262.5	724
Female	325.5	278.1	195	271.3	235.5	148	211.8	227.7	159	124.4	142.0	167	104.2	121.8	53	226.6	236.3	722
Total	344.1	289.5	379	308.0	255.1	304	233.6	225.9	321	155.4	191.3	337	115.4	121.0	105	251.4	250.9	1446

Average intakes per day (ml/day)
Black tea

	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	19.8	62.9	185	16.8	70.8	155	10.3	44.4	162	14.4	48.8	170	15.0	83.4	52	15.4	59.8	724
Female	39.8	94.9	195	28.8	64.0	148	25.6	72.6	159	18.4	47.2	167	20.4	49.9	53	28.1	71.9	722
Total	30.1	81.5	380	22.7	67.7	303	17.9	60.4	321	16.4	48.0	337	17.7	68.3	105	21.7	66.4	1446

Average intakes per day (ml/day)
Green tea

	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	341.1	323.2	184	441.8	518.3	154	570.8	444.4	158	641.7	451.6	170	651.1	370.9	51	506.7	447.0	717
Female	309.9	359.8	195	483.4	427.9	146	697.0	416.0	159	757.3	504.4	167	715.4	378.7	53	564.2	460.6	720
Total	325.0	342.4	379	462.1	476.1	300	634.1	434.3	317	699.0	481.3	337	683.9	374.5	104	535.5	454.6	1437

Average intakes per day (ml/day)
Oolong tea

	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	98.9	223.1	185	106.6	196.5	155	86.8	231.3	162	55.6	176.9	170	16.8	75.9	52	81.8	203.0	724
Female	96.4	247.2	195	106.1	256.7	147	68.0	188.4	159	36.0	135.7	167	12.8	63.2	53	72.0	207.6	721
Total	97.6	235.5	380	106.3	227.4	302	77.5	211.0	321	45.9	157.9	337	14.8	69.5	105	76.9	205.3	1445

Average intakes per day (piece/day)
Satsuma mandarin (Mikan)

	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	0.7	1.2	185	1.3	2.3	156	1.5	1.9	162	1.9	2.1	170	1.5	1.6	52	1.3	1.9	725
Female	1.0	1.2	195	1.7	2.0	148	2.3	2.2	159	2.4	2.5	167	1.6	1.3	53	1.8	2.0	722
Total	0.9	1.2	380	1.5	2.2	304	1.9	2.1	321	2.2	2.3	337	1.5	1.5	105	1.6	2.0	1447

Average intakes per day (piece/day)
Citrus fruit

	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	0.1	0.2	185	0.1	0.2	156	0.1	0.2	161	0.2	0.4	169	0.1	0.2	52	0.1	0.3	723
Female	0.1	0.2	195	0.2	0.4	148	0.4	0.9	158	0.4	0.6	166	0.3	0.6	53	0.3	0.6	720
Total	0.1	0.2	380	0.1	0.3	304	0.3	0.6	319	0.3	0.5	335	0.2	0.5	105	0.2	0.5	1443

Average intakes per day (ml/day)
Orange juice

	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	15.2	54.4	185	10.5	30.5	155	3.9	15.3	162	6.1	21.0	170	4.6	27.1	52	8.8	34.3	724
Female	7.2	21.3	195	7.4	25.1	148	4.1	12.5	158	3.5	11.6	167	1.9	7.7	53	5.3	18.0	721
Total	11.1	41.1	380	9.0	28.0	303	4.0	13.9	320	4.8	17.0	337	3.2	19.8	105	7.0	27.5	1445

IV. Bone Analysis

IV. Bone Analysis

Bone mineral weight and density by dual energy X-ray absorptiometry (DXA)

Whole body bone mineral weight
Whole body bone mineral density
Head bone mineral weight
Head bone mineral density
Left arm bone mineral weight
Left arm bone mineral density
Right arm bone mineral weight
Right arm bone mineral density
Left rib cage bone mineral weight
Left rib cage bone mineral density
Right rib cage bone mineral weight
Right rib cage bone mineral density
Thoracic spine bone mineral weight
Thoracic spine bone mineral density
Lumbar spine bone mineral weight
Lumbar bone mineral density
Pelvic bone mineral weight
Pelvic bone mineral density
Left leg bone mineral weight
Left leg bone mineral density
Right leg bone mineral weight
Right leg bone mineral density
Lumbar spine 2-4
Right and left femoral neck
Right and left trochanter region
Right and left Ward's triangle

Bone mineral density

1. Dual energy X-ray absorptiometry (DXA) (Hologic QDR-4500)

Whole body bone mineral weight (g)

	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	2373.2	322.6	183	2348.3	327.2	154	2244.9	322.1	162	2123.3	304.6	166	1967.4	301.5	50	2252.4	340.3	715
Female	1963.3	261.7	191	1760.0	281.3	146	1570.4	253.5	159	1399.1	206.2	164	1258.8	218.4	48	1654.7	342.6	708
Total	2163.8	357.4	374	2062.0	424.2	300	1910.8	445.0	321	1763.4	446.2	330	1620.4	442.5	98	1955.0	453.8	1423

Whole body bone mineral density (g/cm²)

	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	1.117	0.091	183	1.116	0.095	154	1.098	0.099	162	1.071	0.104	166	1.037	0.102	50	1.096	0.100	715
Female	1.091	0.092	191	1.014	0.107	146	0.929	0.096	159	0.879	0.078	164	0.846	0.073	48	0.973	0.127	708
Total	1.104	0.093	374	1.066	0.113	300	1.014	0.129	321	0.975	0.133	330	0.943	0.130	98	1.035	0.130	1423

Head bone mineral weight (g)

	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	512.4	84.3	184	504.5	79.0	154	490.0	83.1	162	462.7	90.9	168	442.7	80.4	51	489.1	87.0	719
Female	543.7	96.7	193	485.6	106.3	146	419.2	85.6	159	382.5	73.5	165	353.1	73.4	49	453.5	112.3	712
Total	528.4	92.1	377	495.3	93.6	300	454.9	91.4	321	423.0	91.8	333	398.8	88.9	100	471.4	101.9	1431

Head bone mineral density (g/cm²)

	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	2.037	0.284	184	2.050	0.275	154	2.023	0.288	162	1.956	0.332	168	1.915	0.307	51	2.009	0.299	719
Female	2.324	0.355	193	2.115	0.399	146	1.866	0.342	159	1.756	0.295	165	1.660	0.281	49	2.002	0.418	712
Total	2.184	0.353	377	2.082	0.342	300	1.945	0.325	321	1.857	0.330	333	1.790	0.320	100	2.005	0.363	1431

Left arm bone mineral weight (g)

	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	174.6	25.1	184	174.6	24.6	154	168.3	27.6	162	159.7	24.7	168	146.4	27.8	51	167.7	26.9	719
Female	120.9	16.3	193	110.0	19.5	146	98.7	17.6	159	86.5	15.3	165	78.4	15.2	49	102.8	22.2	712
Total	147.1	34.1	377	143.2	39.3	300	133.8	41.8	321	123.4	42.1	333	113.1	40.9	100	135.4	40.8	1431

Left arm bone mineral density (g/cm²)

	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	0.779	0.049	184	0.776	0.054	154	0.767	0.062	162	0.750	0.062	168	0.726	0.069	51	0.765	0.060	719
Female	0.676	0.043	193	0.636	0.053	146	0.592	0.050	159	0.565	0.043	165	0.553	0.042	49	0.615	0.065	712
Total	0.726	0.069	377	0.708	0.088	300	0.680	0.104	321	0.658	0.107	333	0.641	0.104	100	0.690	0.098	1431

Right arm bone mineral weight (g)

	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	186.8	27.4	184	186.3	27.6	154	177.2	28.9	162	167.9	25.7	168	152.6	27.1	51	177.7	29.2	719
Female	129.1	17.3	193	117.6	20.1	146	106.2	18.6	159	92.6	15.7	165	83.1	16.1	49	110.0	23.4	712
Total	157.3	36.8	377	152.8	42.1	300	142.0	43.1	321	130.6	43.3	333	118.5	41.4	100	144.0	43.0	1431

Right arm bone mineral density (g/cm²)

	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	0.804	0.056	184	0.805	0.059	154	0.790	0.069	162	0.767	0.065	168	0.739	0.071	51	0.788	0.066	719
Female	0.695	0.048	193	0.652	0.058	146	0.608	0.051	159	0.575	0.043	165	0.563	0.046	49	0.630	0.069	712
Total	0.748	0.076	377	0.730	0.096	300	0.700	0.109	321	0.672	0.111	333	0.652	0.107	100	0.709	0.104	1431

Left rib cage bone mineral weight (g)

	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	84.4	15.3	183	81.9	14.3	154	78.4	13.1	162	73.6	13.6	168	67.4	14.8	51	78.8	15.0	718
Female	67.5	12.2	193	61.5	12.2	146	56.1	11.6	159	52.1	10.6	165	50.3	11.9	49	59.0	13.2	712
Total	75.7	16.1	376	72.0	16.8	300	67.4	16.7	321	62.9	16.3	333	59.0	16.0	100	68.9	17.3	1430

Left rib cage bone mineral density (g/cm²)

	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	0.632	0.063	183	0.626	0.068	154	0.619	0.069	162	0.604	0.066	168	0.580	0.075	51	0.618	0.068	718
Female	0.590	0.056	193	0.543	0.064	146	0.503	0.055	159	0.482	0.049	165	0.478	0.047	49	0.528	0.070	712
Total	0.611	0.063	376	0.586	0.078	300	0.562	0.085	321	0.544	0.084	333	0.530	0.081	100	0.573	0.083	1430

Right rib cage bone mineral weight (g)

	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	85.3	17.8	183	84.3	15.7	154	81.7	15.2	162	77.8	16.3	167	72.7	17.9	50	81.6	16.9	716
Female	70.4	13.1	193	65.6	13.5	146	63.3	14.3	159	59.2	12.6	165	53.0	12.6	48	64.0	14.2	711
Total	77.6	17.3	376	75.2	17.4	300	72.6	17.4	321	68.6	17.3	332	63.0	18.3	98	72.9	17.9	1427

Right rib cage bone mineral density (g/cm²)

	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	0.629	0.060	183	0.625	0.065	154	0.619	0.068	162	0.608	0.069	167	0.593	0.069	50	0.618	0.066	716
Female	0.586	0.055	193	0.544	0.062	146	0.512	0.056	159	0.496	0.046	165	0.483	0.051	48	0.533	0.066	711
Total	0.607	0.061	376	0.586	0.075	300	0.566	0.082	321	0.552	0.081	332	0.539	0.082	98	0.576	0.079	1427

Thoracic spine bone mineral weight (g)

	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	111.4	21.5	184	117.2	24.5	154	117.5	25.6	162	112.8	27.9	168	105.9	24.9	51	114.0	25.1	719
Female	95.6	17.7	193	87.1	18.8	146	78.0	17.0	159	73.5	16.1	165	67.8	16.5	49	82.9	19.7	712
Total	103.3	21.2	377	102.6	26.5	300	97.9	29.4	321	93.3	30.1	333	87.2	28.5	100	98.5	27.4	1431

Thoracic spine bone mineral density (g/cm²)

	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	0.829	0.107	183	0.863	0.117	154	0.872	0.121	162	0.870	0.141	168	0.874	0.139	51	0.859	0.124	718
Female	0.851	0.105	193	0.784	0.120	146	0.704	0.108	159	0.667	0.094	165	0.644	0.097	49	0.747	0.131	712
Total	0.840	0.106	376	0.825	0.125	300	0.788	0.142	321	0.769	0.157	333	0.761	0.167	100	0.803	0.139	1430

Lumbar spine bone mineral weight (g)

	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	58.1	12.3	183	60.1	15.3	154	60.0	15.1	162	57.0	16.0	168	56.1	16.2	51	58.6	14.8	718
Female	55.3	10.9	193	46.9	12.0	146	39.2	11.1	159	34.2	8.4	165	33.4	10.8	49	43.6	13.6	712
Total	56.7	11.6	376	53.7	15.2	300	49.7	16.8	321	45.7	17.1	333	45.0	17.9	100	51.1	16.0	1430

Lumbar bone mineral density (g/cm²)

	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	0.962	0.135	184	0.993	0.171	154	1.010	0.175	162	0.997	0.190	168	1.022	0.222	51	0.992	0.173	719
Female	1.041	0.135	193	0.932	0.162	146	0.834	0.146	159	0.796	0.112	165	0.813	0.150	49	0.900	0.170	712
Total	1.002	0.141	377	0.963	0.169	300	0.923	0.184	321	0.897	0.186	333	0.920	0.216	100	0.946	0.178	1431

Pelvic bone mineral weight (g)

	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	234.5	53.0	184	228.6	51.7	154	214.2	48.2	162	198.6	44.7	168	177.5	43.5	51	216.2	52.0	719
Female	199.0	43.4	192	168.0	36.9	146	145.5	32.9	159	121.5	26.2	165	108.5	28.0	49	156.5	47.2	711
Total	216.4	51.4	376	199.1	54.3	300	180.2	53.8	321	160.4	53.2	333	143.7	50.4	100	186.5	57.9	1430

Pelvic bone mineral density (g/cm²)

	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	1.129	0.142	184	1.134	0.139	154	1.101	0.142	162	1.071	0.135	168	0.997	0.135	51	1.101	0.144	719
Female	1.138	0.133	192	1.070	0.136	146	0.995	0.128	159	0.908	0.099	165	0.862	0.107	49	1.020	0.156	711
Total	1.133	0.137	376	1.103	0.141	300	1.049	0.145	321	0.990	0.144	333	0.931	0.139	100	1.060	0.155	1430

Left leg bone mineral weight (g)

	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	464.5	68.4	184	455.1	73.8	154	428.6	67.1	162	407.4	60.6	168	370.1	67.1	51	434.4	73.0	719
Female	340.8	50.2	192	309.1	49.2	146	282.0	47.4	159	248.8	44.0	165	218.2	51.4	48	291.4	61.9	710
Total	401.3	86.0	376	384.0	96.4	300	356.0	93.6	321	328.8	95.5	333	296.5	96.9	99	363.3	98.4	1429

Left leg bone mineral density (g/cm²)

	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	1.249	0.117	184	1.235	0.124	154	1.207	0.125	162	1.180	0.134	168	1.113	0.123	51	1.211	0.130	719
Female	1.088	0.092	192	1.027	0.101	146	0.966	0.091	159	0.909	0.086	165	0.862	0.082	48	0.991	0.118	710
Total	1.167	0.132	376	1.134	0.154	300	1.087	0.163	321	1.046	0.176	333	0.991	0.164	99	1.102	0.166	1429

Right leg bone mineral weight (g)

	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	461.9	70.0	184	455.7	72.8	154	429.0	67.6	162	406.8	64.2	168	373.8	63.6	51	434.0	73.3	719
Female	339.6	48.4	192	308.7	49.6	146	282.2	45.5	159	247.5	47.3	165	214.6	50.8	49	290.4	62.0	711
Total	399.5	85.6	376	384.1	96.5	300	356.3	93.4	321	327.9	97.7	333	295.8	98.4	100	362.6	98.9	1430

Right leg bone mineral density (g/cm²)

	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	1.234	0.113	184	1.227	0.120	154	1.201	0.119	162	1.168	0.139	168	1.108	0.113	51	1.201	0.127	719
Female	1.086	0.087	192	1.028	0.098	146	0.961	0.090	159	0.905	0.112	165	0.853	0.083	49	0.988	0.123	711
Total	1.158	0.125	376	1.130	0.148	300	1.082	0.160	321	1.038	0.182	333	0.983	0.162	100	1.095	0.164	1430

Lumbar spine 2-4 (g/cm²)

	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	0.971	0.131	183	0.989	0.148	153	1.011	0.168	162	1.003	0.186	167	1.015	0.195	51	0.994	0.162	716
Female	1.021	0.123	193	0.915	0.157	146	0.829	0.148	159	0.790	0.112	164	0.791	0.136	49	0.887	0.163	711
Total	0.996	0.129	376	0.953	0.156	299	0.921	0.183	321	0.898	0.187	331	0.905	0.202	100	0.941	0.171	1427

Lumbar spine 2-4 (percentage of Young Adult Mean (YAM))

	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	92.8	12.5	183	94.5	14.1	153	96.6	16.0	162	95.9	17.7	168	97.0	18.6	51	95.1	15.5	717
Female	100.9	12.1	193	90.5	15.5	146	81.9	14.7	159	78.1	11.0	165	78.2	13.4	49	87.7	16.2	712
Total	97.0	13.0	376	92.5	14.9	299	89.4	17.1	321	87.1	17.3	333	87.8	18.7	100	91.4	16.2	1429

Right femoral neck (g/cm²)

	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	0.760	0.111	184	0.763	0.115	154	0.737	0.105	162	0.700	0.101	168	0.650	0.098	51	0.734	0.112	719
Female	0.716	0.104	193	0.680	0.091	145	0.632	0.088	159	0.575	0.077	164	0.539	0.084	49	0.645	0.108	710
Total	0.737	0.109	377	0.723	0.111	299	0.685	0.111	321	0.639	0.109	332	0.596	0.107	100	0.690	0.119	1429

Right trochanter region (g/cm²)

	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	0.673	0.099	184	0.698	0.113	154	0.682	0.106	162	0.661	0.112	168	0.607	0.113	51	0.673	0.110	719
Female	0.632	0.094	193	0.598	0.099	145	0.557	0.095	159	0.505	0.075	164	0.466	0.094	49	0.568	0.106	710
Total	0.652	0.098	377	0.650	0.118	299	0.620	0.118	321	0.584	0.123	332	0.538	0.125	100	0.621	0.120	1429

Right Wards triangle (g/cm²)

	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	0.608	0.133	184	0.587	0.128	154	0.540	0.116	162	0.479	0.113	168	0.431	0.104	51	0.546	0.134	719
Female	0.610	0.128	193	0.542	0.120	145	0.459	0.118	159	0.378	0.099	164	0.338	0.110	49	0.490	0.151	710
Total	0.609	0.130	377	0.565	0.126	299	0.500	0.124	321	0.429	0.118	332	0.386	0.116	100	0.518	0.145	1429

Left femoral neck (g/cm²)

	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	0.769	0.117	184	0.769	0.111	154	0.753	0.101	162	0.707	0.100	166	0.668	0.106	51	0.744	0.112	717
Female	0.722	0.101	193	0.685	0.094	146	0.641	0.092	159	0.580	0.077	163	0.559	0.162	48	0.653	0.114	709
Total	0.745	0.112	377	0.728	0.111	300	0.698	0.112	321	0.644	0.109	329	0.615	0.146	99	0.699	0.122	1426

Left trochanter region (g/cm²)

	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	0.682	0.102	184	0.710	0.115	154	0.690	0.110	162	0.669	0.116	166	0.621	0.113	51	0.682	0.113	717
Female	0.634	0.093	193	0.608	0.102	146	0.571	0.097	159	0.513	0.071	163	0.488	0.118	48	0.577	0.106	709
Total	0.658	0.101	377	0.660	0.120	300	0.631	0.120	321	0.591	0.124	329	0.557	0.133	99	0.630	0.122	1426

Left Wards triangle (g/cm²)

	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	0.617	0.135	184	0.581	0.136	154	0.539	0.116	162	0.473	0.114	166	0.428	0.115	51	0.545	0.139	717
Female	0.613	0.127	193	0.549	0.118	146	0.457	0.115	158	0.379	0.093	163	0.337	0.109	48	0.493	0.150	708
Total	0.615	0.131	377	0.565	0.128	300	0.499	0.123	320	0.427	0.114	329	0.384	0.120	99	0.519	0.147	1425

V. Blood Analysis

V. Blood Analysis

Venous blood sample were obtained after an overnight fast.

1) Blood chemistry

Total protein (g/dl)

Triglyceride (mg/dl)

Total cholesterol (mg/dl)

HDL-cholesterol (mg/dl)

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)

Iron ($\mu\text{g/dl}$)

Sialic acid (mg/dl)

Fasting glucose (mg/dl)

Fasting insulin ($\mu\text{U/ml}$)

Hemoglobin A1c (%)

Albumin (mg/dl) direct method

High sensitive CRP (ng/ml)

Testosterone (ng/ml)

Free testosterone (pg/ml)

2) 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 (fl)

MCH (pg)