

Exercise experiments during each life period

		40-49yr		50-59yr		60-69yr		70-79yr		80-yr		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
20-29 years	Male	119	41.6	116	39.3	111	37.0	70	27.5	8	15.1	424	35.7
	Female	86	29.3	43	15.2	18	6.6	11	3.9	2	3.4	160	13.4
	Total	205	35.3	159	27.5	129	22.5	81	15.0	10	8.9	584	24.5
30-39 years	Male	118	41.3	117	39.7	105	35.0	60	23.5	6	11.3	406	34.1
	Female	121	41.2	109	38.5	50	18.3	12	4.2	2	3.4	294	24.6
	Total	239	41.2	226	39.1	155	27.1	72	13.3	8	7.1	700	29.4
40-59 years	Male	81	28.3	174	59.0	160	53.3	84	32.9	11	20.8	510	42.9
	Female	94	32.0	179	63.3	156	57.1	76	26.7	11	18.6	516	43.2
	Total	175	30.2	353	61.1	316	55.1	160	29.6	22	19.6	1026	43.1
60- years	Male	0	0.0	0	0.0	188	62.7	169	66.3	35	66.0	392	33.0
	Female	0	0.0	1	0.4	157	57.5	164	57.5	35	59.3	357	29.9
	Total	0	0.0	1	0.2	345	60.2	333	61.7	70	62.5	749	31.4
Total	Male	286	100.0	295	100.0	300	100.0	255	100.0	53	100.0	1189	100.0
	Female	294	100.0	283	100.0	273	100.0	285	100.0	59	100.0	1194	100.0
	Total	580	100.0	578	100.0	573	100.0	540	100.0	112	100.0	2383	100.0

XI. Anthropometry, Body Composition and Resting Metabolic Profiles

XI. Anthropometry and Body composition

1) Anthropometric measurements

2) Body composition

1. Body composition by DXA

2. Extra- and intra-cellular fluid volume by multi-frequency impedance method

3) Thickness of subcutaneous fat, preperitoneal fat and muscle tissue

4) Abdominal fat distribution

1) Anthropometric measurements

Height (cm)

	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	170.4	6.2	286	167.7	5.8	295	165.1	5.4	300	161.6	5.2	255	159.5	5.8	53	166.0	6.6	1189
Female	156.4	5.0	294	154.4	4.7	283	152.3	5.0	273	148.1	5.2	285	144.6	5.8	59	152.4	6.1	1194
Total	163.3	8.9	580	161.2	8.5	578	159.0	8.3	573	154.5	8.5	540	151.6	9.5	112	159.2	9.3	2383

Weight (kg)

	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	67.5	9.6	286	66.5	9.6	295	63.0	8.6	300	59.8	8.7	255	55.8	9.5	53	63.9	9.8	1189
Female	53.7	9.1	294	53.5	8.0	283	53.1	7.8	273	51.0	7.4	285	46.8	8.5	59	52.5	8.3	1194
Total	60.5	11.6	580	60.1	11.0	578	58.3	9.6	573	55.1	9.1	540	51.1	10.0	112	58.2	10.7	2383

Body mass index (kg/m2)

	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	23.2	2.9	286	23.6	2.7	295	23.1	2.8	300	22.9	2.9	255	21.9	3.4	53	23.2	2.9	1189
Female	21.9	3.5	294	22.4	3.2	283	22.9	3.0	273	23.3	3.3	285	22.4	3.5	59	22.6	3.3	1194
Total	22.6	3.3	580	23.0	3.0	578	23.0	2.9	573	23.1	3.1	540	22.2	3.5	112	22.9	3.1	2383

Trochanterion height (cm)

	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	83.4	4.1	286	81.6	4.0	295	80.4	3.7	300	79.2	3.4	255	78.5	3.8	53	81.1	4.1	1189
Female	77.0	3.4	294	75.4	3.2	283	74.9	3.5	273	73.3	3.4	285	72.6	3.2	59	75.1	3.6	1194
Total	80.1	4.9	580	78.6	4.7	578	77.8	4.5	573	76.1	4.5	540	75.4	4.6	112	78.0	4.9	2383

Waist circumference at midway (cm)

	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	81.7	8.0	286	83.6	8.1	295	83.3	8.5	300	83.6	9.1	255	79.8	10.8	53	82.9	8.6	1189
Female	71.0	8.5	294	73.4	8.4	283	75.7	8.6	273	78.0	9.3	285	75.5	10.3	59	74.6	9.1	1194
Total	76.3	9.9	580	78.6	9.7	578	79.7	9.3	573	80.6	9.6	540	77.5	10.7	112	78.7	9.8	2383

Waist circumference at umbilicus (cm)

	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	83.8	7.9	286	85.7	7.9	295	85.2	8.4	300	85.6	8.6	255	81.9	10.6	53	84.9	8.4	1189
Female	77.0	9.4	294	80.6	9.4	283	83.2	9.0	273	85.3	10.2	285	83.4	10.3	59	81.6	10.0	1194
Total	80.4	9.3	580	83.2	9.0	578	84.2	8.7	573	85.4	9.5	540	82.7	10.4	112	83.2	9.4	2383

Hip circumference (cm)

	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	94.5	5.0	286	93.5	5.2	295	91.8	4.8	300	90.1	5.0	255	88.4	5.7	53	92.4	5.3	1189
Female	91.8	6.0	294	91.2	5.4	283	90.1	5.0	273	89.4	5.4	285	87.6	7.0	59	90.5	5.7	1194
Total	93.2	5.7	580	92.4	5.4	578	91.0	5.0	573	89.8	5.2	540	88.0	6.4	112	91.4	5.6	2383

Thigh circumference at midway (cm)

	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	50.3	3.7	285	49.3	3.7	295	47.5	3.8	299	46.0	3.8	255	44.0	4.6	53	48.1	4.2	1187
Female	48.6	4.2	294	47.7	4.1	283	46.8	3.8	273	45.2	4.0	285	43.1	4.2	59	46.9	4.3	1194
Total	49.5	4.1	579	48.5	3.9	578	47.1	3.8	572	45.6	3.9	540	43.5	4.4	112	47.5	4.3	2381

Calf circumference (cm)

	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	36.9	2.6	286	36.4	2.6	295	35.3	2.5	299	34.1	2.5	255	32.9	3.2	53	35.6	2.9	1188
Female	34.6	2.7	294	34.1	2.5	283	33.9	3.7	273	32.7	2.4	285	31.9	3.1	59	33.8	3.0	1194
Total	35.7	2.9	580	35.3	2.8	578	34.7	3.2	572	33.4	2.6	540	32.4	3.2	112	34.7	3.1	2382

Upper-arm circumference (cm)

	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	29.1	2.5	286	28.9	2.2	295	28.0	2.3	300	27.0	2.4	255	25.8	2.7	53	28.2	2.5	1189
Female	26.4	2.9	294	26.8	2.7	283	27.2	2.6	273	26.7	2.8	285	25.1	2.9	59	26.7	2.8	1194
Total	27.7	3.0	580	27.9	2.7	578	27.6	2.5	573	26.9	2.6	540	25.4	2.8	112	27.4	2.8	2383

2) Body composition

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

Head fat weight (kg)

	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	1.037	0.092	284	1.035	0.088	291	1.010	0.088	298	0.987	0.096	247	0.960	0.096	53	1.016	0.094	1173
Female	0.884	0.081	290	0.892	0.083	282	0.896	0.073	270	0.886	0.086	284	0.842	0.089	56	0.887	0.082	1182
Total	0.960	0.116	574	0.964	0.111	573	0.956	0.099	568	0.933	0.104	531	0.900	0.110	109	0.951	0.109	2355

Head lean weight (kg)

	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	4.083	0.339	284	4.066	0.315	291	3.978	0.335	298	3.852	0.344	247	3.767	0.357	53	3.989	0.348	1173
Female	3.577	0.308	290	3.536	0.301	282	3.492	0.268	270	3.408	0.291	284	3.241	0.322	56	3.491	0.305	1182
Total	3.828	0.411	574	3.805	0.406	573	3.747	0.390	568	3.614	0.387	531	3.497	0.429	109	3.739	0.411	2355

Left arm fat weight (kg)

	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	0.826	0.281	284	0.827	0.319	291	0.774	0.261	298	0.809	0.263	247	0.758	0.280	53	0.806	0.283	1173
Female	1.026	0.421	290	1.093	0.382	282	1.124	0.381	270	1.120	0.367	284	0.912	0.291	56	1.081	0.388	1182
Total	0.927	0.372	574	0.958	0.376	573	0.940	0.368	568	0.975	0.358	531	0.837	0.294	109	0.944	0.366	2355

Left arm lean weight (kg)

	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	3.069	0.438	284	3.028	0.404	291	2.804	0.389	298	2.592	0.354	247	2.344	0.371	53	2.858	0.451	1173
Female	1.828	0.306	290	1.785	0.264	282	1.763	0.242	270	1.682	0.231	284	1.541	0.242	56	1.754	0.271	1182
Total	2.442	0.727	574	2.416	0.710	573	2.309	0.615	568	2.106	0.542	531	1.932	0.508	109	2.304	0.666	2355

Right arm fat weight (kg)

	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	0.801	0.311	284	0.794	0.341	291	0.743	0.268	298	0.791	0.288	247	0.755	0.295	53	0.780	0.303	1173
Female	1.003	0.429	290	1.063	0.382	282	1.124	0.406	270	1.122	0.385	284	0.897	0.308	56	1.069	0.401	1182
Total	0.903	0.388	574	0.927	0.386	573	0.924	0.390	568	0.968	0.381	531	0.828	0.309	109	0.925	0.384	2355

Right arm lean weight (kg)

	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	3.332	0.476	284	3.314	0.446	291	3.075	0.423	298	2.804	0.384	247	2.536	0.402	53	3.115	0.494	1173
Female	2.011	0.337	290	1.988	0.283	282	1.972	0.287	270	1.862	0.281	284	1.695	0.283	56	1.946	0.307	1182
Total	2.665	0.779	574	2.661	0.762	573	2.551	0.661	568	2.300	0.576	531	2.104	0.545	109	2.528	0.715	2355

Trunk fat weight (kg)

	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	7.836	2.848	283	7.998	2.902	290	7.669	2.790	298	7.753	2.847	247	6.966	2.979	53	7.777	2.856	1171
Female	7.340	3.005	290	8.429	2.922	281	9.043	2.889	270	9.023	2.830	284	7.678	2.650	55	8.410	2.979	1180
Total	7.585	2.936	573	8.210	2.917	571	8.323	2.917	568	8.432	2.905	531	7.329	2.826	108	8.095	2.935	2351

Trunk lean weight (kg)

	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	26.443	3.114	283	26.235	3.002	290	24.956	2.861	298	23.309	2.819	247	21.782	3.172	53	25.141	3.270	1171
Female	19.449	2.439	290	18.929	2.136	281	18.451	2.106	270	17.583	1.961	283	16.388	2.369	55	18.506	2.326	1179
Total	22.903	4.476	573	22.640	4.492	571	21.864	4.119	568	20.252	3.731	530	19.035	3.881	108	21.812	4.365	2350

Left leg fat weight (kg)

	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	2.482	0.699	284	2.305	0.646	291	2.215	0.673	298	2.253	0.649	247	2.250	0.708	53	2.311	0.676	1173
Female	3.180	0.766	290	3.027	0.757	282	2.902	0.770	270	2.713	0.772	283	2.384	0.723	55	2.931	0.791	1180
Total	2.835	0.812	574	2.660	0.790	573	2.541	0.798	568	2.498	0.753	530	2.318	0.715	108	2.622	0.798	2353

Left leg lean weight (kg)

	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	8.460	1.129	284	8.153	1.131	291	7.617	0.983	298	7.027	0.902	247	6.416	1.044	53	7.776	1.202	1173
Female	5.831	0.945	290	5.612	0.787	282	5.450	0.748	270	5.071	0.608	283	4.842	0.709	55	5.463	0.836	1180
Total	7.132	1.677	574	6.902	1.602	573	6.587	1.394	568	5.982	1.237	530	5.614	1.187	108	6.616	1.552	2353

Right leg fat weight (kg)

	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	2.378	0.695	284	2.210	0.633	291	2.130	0.654	298	2.192	0.670	247	2.155	0.673	53	2.224	0.668	1173
Female	3.124	0.769	290	2.989	0.771	282	2.868	0.757	270	2.703	0.781	283	2.394	0.783	56	2.898	0.792	1181
Total	2.755	0.822	574	2.593	0.805	573	2.481	0.795	568	2.465	0.774	530	2.278	0.738	109	2.562	0.807	2354

Right leg lean weight (kg)

	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	8.645	1.169	284	8.347	1.125	291	7.793	1.023	298	7.190	0.912	247	6.635	0.986	53	7.958	1.220	1173
Female	5.934	0.960	290	5.759	0.805	282	5.603	0.785	270	5.209	0.667	283	4.918	0.776	56	5.595	0.864	1181
Total	7.275	1.726	574	7.074	1.624	573	6.752	1.428	568	6.132	1.266	530	5.753	1.232	109	6.772	1.585	2354

Total fat weight (kg)

	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	15.4	4.6	283	15.2	4.6	290	14.5	4.4	298	14.8	4.5	247	13.8	4.8	53	14.9	4.6	1171
Female	16.6	5.0	290	17.5	4.8	281	18.0	4.7	270	17.6	4.7	283	15.1	4.3	55	17.3	4.8	1179
Total	16.0	4.8	573	16.3	4.9	571	16.2	4.9	568	16.3	4.8	530	14.5	4.6	108	16.1	4.9	2350

Lean body weight (kg)

	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	54.0	6.2	283	53.1	5.9	290	50.2	5.5	298	46.8	5.3	247	43.5	5.8	53	50.8	6.5	1171
Female	38.6	5.0	290	37.6	4.2	281	36.7	4.1	270	34.8	3.7	283	32.6	4.4	55	36.8	4.6	1179
Total	46.2	9.5	573	45.5	9.3	571	43.8	8.3	568	40.4	7.5	530	37.9	7.5	108	43.8	9.0	2350

Percent body fat (%)

	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	21.8	4.2	283	21.8	4.2	290	22.1	4.6	298	23.6	4.6	247	23.6	5.2	53	22.3	4.5	1171
Female	29.5	4.7	290	31.3	4.8	281	32.4	4.8	270	33.0	5.4	283	31.2	4.8	55	31.5	5.1	1179
Total	25.7	5.9	573	26.5	6.5	571	27.0	7.0	568	28.6	6.9	530	27.4	6.3	108	26.9	6.6	2350

3) Thickness of subcutaneous fat, preperitoneal fat, and muscle tissue

Thickness of subcutaneous fat at right of umbilicus (mm)

	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	17.6	6.9	286	16.8	6.2	295	15.0	5.6	300	14.9	5.5	255	12.9	6.1	53	16.0	6.2	1189
Female	20.1	9.1	294	23.3	8.9	283	23.7	8.3	273	23.0	8.7	285	19.0	8.8	59	22.3	8.9	1194
Total	18.9	8.2	580	20.0	8.3	578	19.2	8.2	573	19.2	8.4	540	16.1	8.2	112	19.2	8.3	2383

Thickness of musculus rectus abdominis at right of umbilicus (mm)

	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	11.1	1.9	286	10.4	1.9	295	9.7	1.9	300	9.0	1.7	255	8.1	1.7	53	10.0	2.0	1189
Female	8.6	1.8	294	7.8	1.6	283	7.4	1.5	273	7.1	1.7	285	6.4	2.1	58	7.7	1.8	1193
Total	9.8	2.2	580	9.1	2.2	578	8.6	2.0	573	8.0	2.0	540	7.2	2.1	111	8.8	2.2	2382

Thickness of subcutaneous fat at thigh (mm)

	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	6.6	2.0	285	6.1	1.9	295	5.6	1.9	299	5.7	2.0	255	5.9	2.0	53	6.0	2.0	1187
Female	10.8	2.8	294	10.2	2.7	283	9.4	2.9	273	8.5	3.0	285	7.2	2.5	59	9.6	3.0	1194
Total	8.7	3.2	579	8.1	3.1	578	7.5	3.1	572	7.2	3.0	540	6.6	2.3	112	7.8	3.1	2381

Thickness of musculus rectus femoris at thigh (mm)

	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	33.5	6.1	285	32.8	7.2	295	29.0	6.4	298	26.0	6.2	255	22.4	6.7	53	30.1	7.3	1186
Female	30.6	6.6	294	28.3	6.2	283	26.5	5.9	273	23.3	5.4	285	20.3	6.0	59	26.8	6.8	1194
Total	32.0	6.5	579	30.6	7.1	578	27.8	6.3	571	24.6	6.0	540	21.3	6.4	112	28.5	7.2	2380

Thickness of subcutaneous fat at anterior calf (mm)

	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	2.5	0.8	286	2.4	0.7	295	2.2	0.7	299	2.2	0.7	255	2.4	0.8	53	2.3	0.7	1188
Female	3.9	1.4	294	3.4	1.5	283	3.2	1.4	273	3.1	1.3	285	3.1	1.4	59	3.4	1.4	1194
Total	3.2	1.3	580	2.9	1.3	578	2.6	1.2	572	2.7	1.1	540	2.7	1.2	112	2.9	1.3	2382

Thickness of musculus tibialis anterior (mm)

	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	26.9	3.0	286	26.5	3.2	295	25.4	3.1	299	23.8	3.3	255	21.9	3.5	53	25.5	3.5	1188
Female	23.3	2.9	294	22.5	2.9	283	22.3	2.7	273	21.1	2.7	285	20.3	2.7	59	22.2	2.9	1194
Total	25.1	3.5	580	24.5	3.7	578	23.9	3.3	572	22.4	3.3	540	21.1	3.2	112	23.9	3.6	2382

Thickness of subcutaneous fat at upper-arm (mm)

	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	6.4	1.9	286	5.9	1.9	295	5.4	1.7	299	5.5	1.7	254	5.0	1.6	53	5.8	1.8	1187
Female	10.3	2.8	294	10.1	2.7	283	10.1	2.4	273	9.6	2.7	285	8.2	2.1	59	9.9	2.6	1194
Total	8.3	3.1	580	8.0	3.1	578	7.6	3.1	572	7.7	3.0	539	6.7	2.5	112	7.8	3.1	2381

Thickness of musculus triceps brachi (mm)

	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	24.6	5.2	286	24.3	4.9	295	22.5	5.5	299	20.1	4.8	254	18.1	4.5	53	22.8	5.4	1187
Female	18.8	4.6	294	18.9	4.2	283	19.0	4.1	273	17.8	4.0	285	16.1	3.9	59	18.5	4.3	1194
Total	21.6	5.7	580	21.7	5.3	578	20.8	5.2	572	18.9	4.5	539	17.1	4.3	112	20.6	5.3	2381

Thickness of subcutaneous fat at posterior mid-thigh (mm)

	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	5.6	1.6	285	5.1	1.6	295	4.9	1.6	299	5.0	1.8	254	4.9	1.5	53	5.2	1.7	1186
Female	9.4	3.1	293	8.6	3.1	283	7.8	3.1	273	7.4	3.1	285	6.9	2.9	59	8.2	3.2	1193
Total	7.5	3.2	578	6.8	3.0	578	6.3	2.9	572	6.3	2.9	539	5.9	2.5	112	6.7	3.0	2379

Thickness of subcutaneous fat at posterior calf (mm)

	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	4.8	1.3	286	4.3	1.3	294	4.0	1.3	299	4.1	1.4	254	3.9	1.4	53	4.3	1.4	1186
Female	6.9	1.6	294	6.3	1.7	283	5.6	1.8	273	5.4	1.8	285	4.9	1.6	59	6.0	1.8	1194
Total	5.9	1.8	580	5.3	1.8	577	4.8	1.7	572	4.8	1.8	539	4.4	1.6	112	5.2	1.8	2380

Thickness of musculus gastrocnemius and soleus (mm)

	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	59.0	6.0	286	57.7	6.2	294	55.2	6.2	299	53.0	6.3	254	51.2	6.9	53	56.1	6.7	1186
Female	52.5	6.3	294	50.5	5.5	283	49.9	5.5	273	48.3	5.6	284	48.2	6.2	59	50.2	5.9	1193
Total	55.7	7.0	580	54.2	6.9	577	52.7	6.5	572	50.5	6.4	538	49.6	6.7	112	53.2	7.0	2379

4) Abdominal fat distribution

Intra-abdominal fat area at umbilicus by CT (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	77.1	36.1	285	95.8	45.3	294	98.1	48.8	300	99.1	49.4	253	90.6	52.4	53	92.4	46.3	1185
Female	37.0	24.7	292	55.4	33.5	281	67.8	36.5	273	82.1	42.0	285	73.1	37.3	59	61.0	38.5	1190
Total	56.8	36.8	577	76.0	44.8	575	83.7	45.9	573	90.1	46.4	538	81.4	45.7	112	76.6	45.3	2375

Subcutaneous fat area at umbilicus by CT (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	123.2	56.5	285	118.4	49.6	294	111.2	46.5	300	114.9	46.4	253	99.3	46.6	53	116.1	50.1	1185
Female	138.3	72.7	292	161.2	70.1	281	165.8	62.2	273	166.0	68.5	285	140.5	58.5	59	156.8	69.0	1190
Total	130.8	65.6	577	139.3	64.1	575	137.2	61.0	573	142.0	64.3	538	121.0	56.8	112	136.5	63.6	2375

Waist circumference at umbilicus by CT (cm)

	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	85.6	8.3	285	87.2	8.1	294	86.4	8.4	300	86.7	9.0	253	83.7	9.7	53	86.4	8.5	1185
Female	80.2	9.7	292	84.3	9.6	281	86.5	9.2	273	88.0	9.9	285	85.2	8.7	59	84.7	10.0	1190
Total	82.9	9.4	577	85.8	9.0	575	86.4	8.8	573	87.4	9.5	538	84.5	9.1	112	85.5	9.3	2375

XII. Head MRI Measurements

XII. Head MRI Measurements

MRI was performed on a 1.5T Toshiba instrument (VISART). The scanning protocol included a series of axial T1-(TR500, TE15) and T2-weighted(TR4000, TE120) scans angled parallel to the anterior-posterior commissure line .

1) Brain atrophy

Divided into 4 classes according to an appendix1.

2) Ventricular dilatation

Divided into 4 classes according to an appendix2.

3) Periventricular hyperintensity

Divide into 4 classes according to an appendix3.

4) Cerebrovascular disease

Cerebral infarction

Border zone

Include cerebral cortex

White matter

Basal ganglia, thalamus, internal capsule, midbrain, pons, medulla oblongata

Cerebellar white matter, cerebellar cortex

Decided as following,

Lacuna : The lesions of white matter, basal ganglia, thalamus, internal capsule, midbrain, pons, medulla oblongata and whose size are larger than or equal to 3mm and smaller than or equal to 15mm.

Embolism : Include cerebral or cerebellar cortex, and which is not border zone infarction.

Thrombosis : Other than above.

Cerebral hemorrhage

On T2 weighted image(WI), hyperintensity inside the lesion and no signal around the lesion. Or on T2WI no signal slit lesion.

References

Stroke 1994 vol25, p318-327

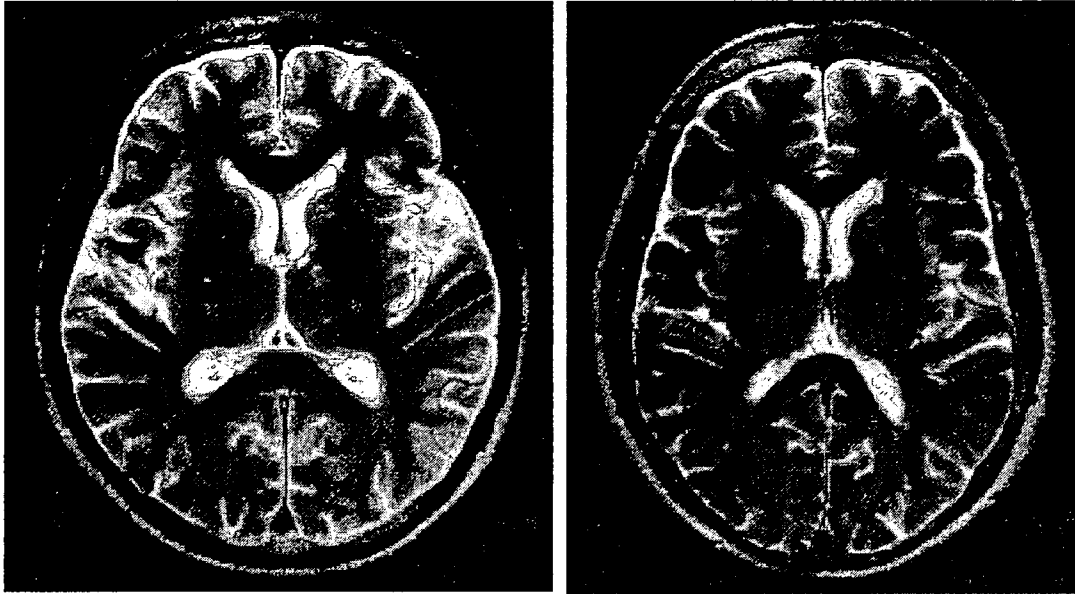
Naika 1997 vol79 (4)

Nihon naika gakkaiishi 1997 vol86

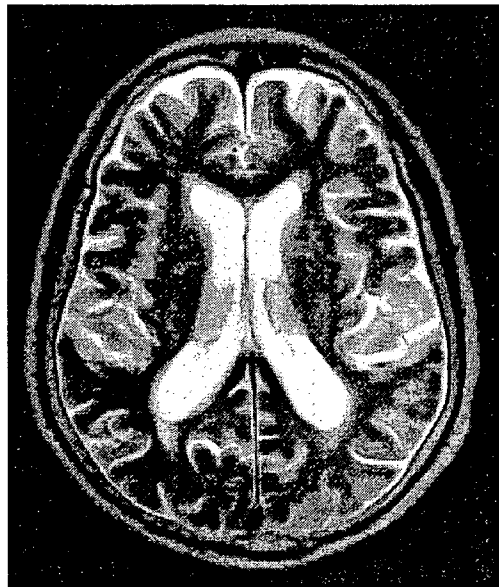
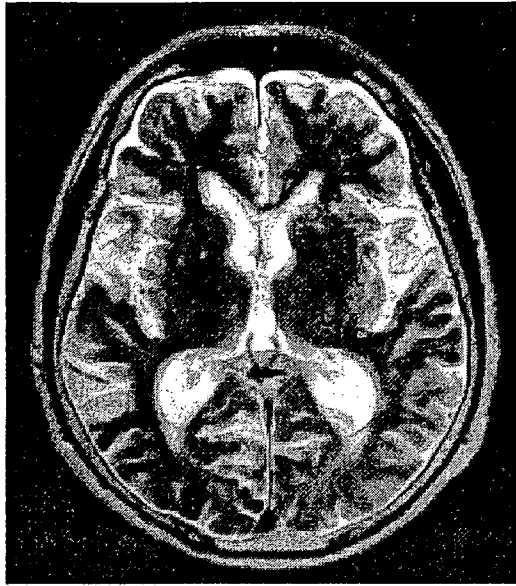
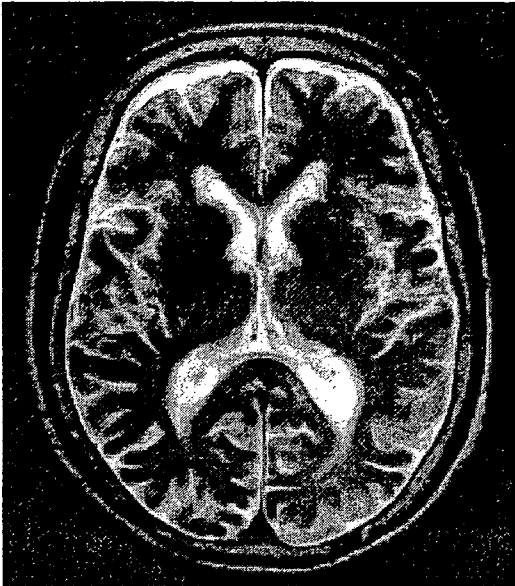
Medicina 1994 vol31 (8)

Periventricular hyperintensity

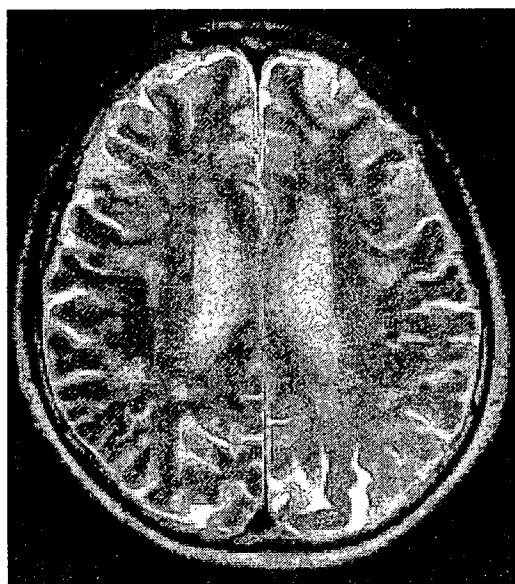
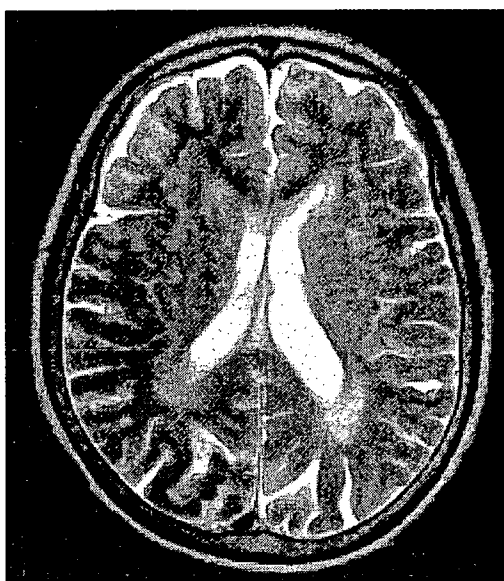
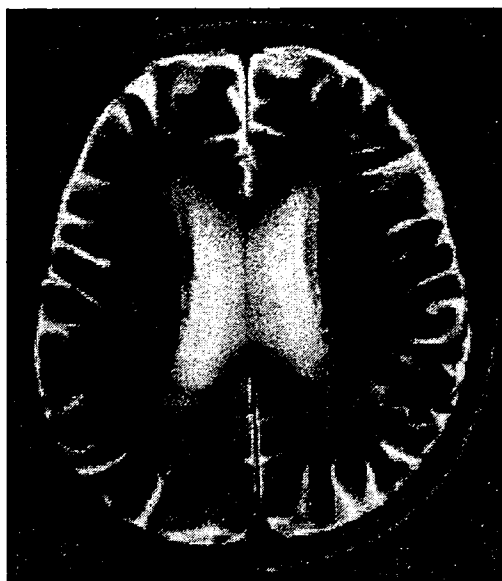
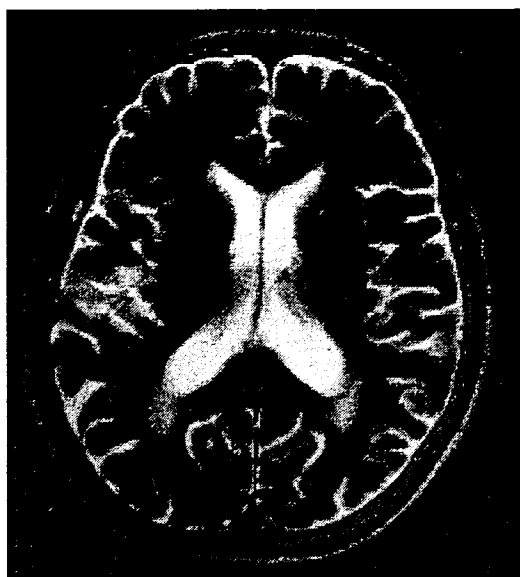
I. None or minimal periventricular signal hyperintensities in the form of caps only in the anterior horn of lateral ventricles.



II. Caps in both anterior and posterior horns of lateral ventricles.



III. multifocal periventricular hyperintense punctuate lesions.



IV. Multiple high signal intensity area that reached confluency in the periventricular region and white matter.

