

Table 1: Triceps skinfold thickness (mm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	7.03	7.98	10.35	13.71	16.02	0.2143	-0.2911	1.6942
3.5	6.78	7.69	9.99	13.33	15.64	0.2173	-0.3457	1.7254
4	6.55	7.42	9.66	12.99	15.32	0.2208	-0.3983	1.7576
4.5	6.33	7.16	9.37	12.71	15.08	0.2254	-0.4474	1.7884
5	6.12	6.93	9.12	12.53	14.99	0.2319	-0.4923	1.8154
5.5	5.94	6.73	8.94	12.48	15.08	0.2407	-0.5327	1.8377
6	5.79	6.58	8.83	12.57	15.40	0.2517	-0.5683	1.8565
6.5	5.67	6.46	8.79	12.81	15.96	0.2649	-0.5981	1.874
7	5.58	6.39	8.83	13.21	16.77	0.2799	-0.6206	1.8923
7.5	5.54	6.37	8.94	13.78	17.86	0.2964	-0.6342	1.9129
8	5.52	6.39	9.13	14.51	19.21	0.3139	-0.6376	1.9399
8.5	5.55	6.45	9.40	15.41	20.81	0.3318	-0.6307	1.9773
9	5.62	6.56	9.74	16.46	22.56	0.3492	-0.6150	2.0273
9.5	5.71	6.70	10.14	17.60	24.38	0.3653	-0.5927	2.0903
10	5.83	6.86	10.56	18.75	26.09	0.3794	-0.5664	2.1666
10.5	5.94	7.00	10.96	19.80	27.53	0.3910	-0.5393	2.2567
11	6.03	7.12	11.28	20.65	28.59	0.3997	-0.5164	2.3621
11.5	6.11	7.19	11.50	21.25	29.22	0.4053	-0.5018	2.4833
12	6.15	7.22	11.59	21.55	29.42	0.4078	-0.4980	2.6187
12.5	6.15	7.19	11.54	21.54	29.19	0.4077	-0.5042	2.7644
13	6.11	7.10	11.37	21.25	28.61	0.4057	-0.5180	2.9158
13.5	6.02	6.96	11.10	20.76	27.78	0.4025	-0.5373	3.0683
14	5.91	6.79	10.78	20.17	26.88	0.3992	-0.5616	3.2181
14.5	5.79	6.62	10.45	19.61	26.08	0.3962	-0.5913	3.3662
15	5.68	6.45	10.15	19.13	25.47	0.3940	-0.6257	3.5179
15.5	5.58	6.30	9.87	18.77	25.05	0.3928	-0.6637	3.6812
16	5.49	6.17	9.64	18.50	24.80	0.3922	-0.7035	3.8624
16.5	5.41	6.06	9.43	18.31	24.68	0.3921	-0.7443	4.0623

Table 2: Triceps skinfold thickness (mm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	6.84	7.72	10.10	13.23	14.95	0.2090	-0.0144	2.1116
3.5	6.63	7.54	9.93	13.16	15.08	0.2176	-0.0744	1.94
4	6.43	7.38	9.78	13.10	15.24	0.2266	-0.1339	1.7871
4.5	6.25	7.22	9.63	13.06	15.45	0.2356	-0.1915	1.6574
5	6.09	7.09	9.51	13.06	15.71	0.2447	-0.2456	1.5555
5.5	5.97	7.00	9.44	13.12	16.06	0.2537	-0.2937	1.4857
6	5.90	6.95	9.45	13.30	16.52	0.2625	-0.3339	1.4485
6.5	5.90	6.97	9.55	13.63	17.14	0.2710	-0.3654	1.443
7	5.97	7.06	9.76	14.13	17.93	0.2795	-0.3886	1.4672
7.5	6.08	7.20	10.06	14.80	18.92	0.2884	-0.4042	1.5193
8	6.23	7.38	10.43	15.64	20.09	0.2982	-0.4135	1.5973
8.5	6.40	7.57	10.85	16.59	21.39	0.3089	-0.4176	1.6981
9	6.56	7.75	11.27	17.59	22.73	0.3200	-0.4167	1.817
9.5	6.70	7.91	11.68	18.58	24.02	0.3308	-0.4114	1.9481
10	6.82	8.04	12.05	19.52	25.20	0.3410	-0.4021	2.0852
10.5	6.93	8.16	12.39	20.40	26.27	0.3503	-0.3896	2.2219
11	7.04	8.28	12.72	21.22	27.25	0.3583	-0.3747	2.3498
11.5	7.16	8.42	13.07	21.99	28.12	0.3645	-0.3566	2.4591
12	7.31	8.60	13.44	22.69	28.87	0.3680	-0.3336	2.5405
12.5	7.49	8.83	13.85	23.32	29.47	0.3688	-0.3027	2.587
13	7.70	9.09	14.29	23.88	29.93	0.3671	-0.2628	2.5958
13.5	7.92	9.39	14.76	24.37	30.28	0.3635	-0.2145	2.5685
14	8.14	9.70	15.23	24.78	30.55	0.3587	-0.1602	2.5106
14.5	8.36	10.02	15.69	25.12	30.75	0.3528	-0.1033	2.4304
15	8.58	10.34	16.13	25.40	30.90	0.3461	-0.0474	2.3377
15.5	8.81	10.67	16.54	25.62	31.00	0.3385	0.0047	2.2418
16	9.04	11.00	16.92	25.78	31.03	0.3301	0.0530	2.1493
16.5	9.28	11.33	17.28	25.91	31.03	0.3214	0.0992	2.0628

Table 3: Biceps skinfold thickness (mm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	4.00	4.50	5.99	8.29	9.75	0.2352	-0.4341	2.1241
3.5	3.85	4.33	5.77	8.05	9.55	0.2392	-0.4752	2.093
4	3.70	4.17	5.57	7.84	9.38	0.2439	-0.5165	2.0695
4.5	3.55	4.01	5.39	7.68	9.29	0.2502	-0.5576	2.0584
5	3.42	3.86	5.23	7.58	9.28	0.2588	-0.5975	2.0647
5.5	3.29	3.73	5.10	7.55	9.38	0.2700	-0.6347	2.0934
6	3.18	3.61	5.01	7.62	9.62	0.2837	-0.6677	2.1455
6.5	3.09	3.51	4.95	7.78	10.03	0.2998	-0.6948	2.2203
7	3.02	3.44	4.94	8.06	10.62	0.3181	-0.7144	2.3162
7.5	2.98	3.40	4.99	8.47	11.41	0.3380	-0.7249	2.4309
8	2.97	3.39	5.08	9.01	12.41	0.3589	-0.7259	2.5631
8.5	2.98	3.41	5.22	9.67	13.59	0.3800	-0.7178	2.7102
9	3.00	3.45	5.40	10.42	14.88	0.4006	-0.7023	2.8665
9.5	3.04	3.50	5.60	11.22	16.20	0.4195	-0.6821	3.0234
10	3.10	3.57	5.81	12.00	17.44	0.4357	-0.6603	3.1714
10.5	3.15	3.64	6.02	12.69	18.47	0.4479	-0.6406	3.3012
11	3.21	3.70	6.19	13.24	19.24	0.4560	-0.6266	3.4038
11.5	3.25	3.75	6.30	13.58	19.73	0.4601	-0.6207	3.4712
12	3.28	3.78	6.34	13.70	19.91	0.4604	-0.6239	3.4974
12.5	3.27	3.77	6.30	13.57	19.76	0.4573	-0.6347	3.4809
13	3.24	3.73	6.19	13.21	19.27	0.4513	-0.6499	3.4249
13.5	3.19	3.66	6.01	12.67	18.49	0.4430	-0.6673	3.3359
14	3.11	3.57	5.80	12.02	17.55	0.4334	-0.6862	3.2226
14.5	3.03	3.47	5.57	11.34	16.58	0.4233	-0.7065	3.0972
15	2.94	3.37	5.34	10.68	15.65	0.4135	-0.7282	2.9714
15.5	2.86	3.27	5.12	10.08	14.80	0.4039	-0.7507	2.8546
16	2.78	3.18	4.92	9.53	14.01	0.3946	-0.7738	2.7518
16.5	2.71	3.10	4.74	9.04	13.29	0.3854	-0.7973	2.6623

Table 4: Biceps skinfold thickness (mm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	3.97	4.51	6.03	8.46	10.19	0.2449	-0.4862	1.9046
3.5	3.86	4.41	5.95	8.47	10.33	0.2547	-0.4875	1.8435
4	3.74	4.30	5.86	8.46	10.46	0.2652	-0.4881	1.7915
4.5	3.61	4.17	5.76	8.45	10.59	0.2762	-0.4872	1.7522
5	3.48	4.06	5.67	8.44	10.72	0.2875	-0.4835	1.7296
5.5	3.38	3.96	5.60	8.48	10.89	0.2987	-0.4760	1.7284
6	3.31	3.90	5.59	8.60	11.14	0.3097	-0.4640	1.753
6.5	3.29	3.88	5.63	8.82	11.48	0.3207	-0.4476	1.8036
7	3.30	3.90	5.75	9.17	11.96	0.3321	-0.4274	1.8764
7.5	3.33	3.96	5.93	9.64	12.60	0.3444	-0.4047	1.965
8	3.39	4.04	6.17	10.23	13.39	0.3579	-0.3806	2.0626
8.5	3.46	4.13	6.44	10.91	14.30	0.3723	-0.3557	2.1631
9	3.53	4.22	6.72	11.62	15.26	0.3871	-0.3309	2.2623
9.5	3.57	4.30	6.97	12.31	16.19	0.4017	-0.3073	2.3576
10	3.60	4.35	7.19	12.95	17.05	0.4154	-0.2868	2.4464
10.5	3.62	4.39	7.38	13.53	17.85	0.4278	-0.2712	2.526
11	3.65	4.43	7.56	14.07	18.59	0.4381	-0.2618	2.5936
11.5	3.69	4.49	7.73	14.55	19.27	0.4456	-0.2579	2.647
12	3.76	4.57	7.91	14.98	19.86	0.4497	-0.2571	2.6849
12.5	3.83	4.66	8.08	15.34	20.32	0.4508	-0.2561	2.7062
13	3.92	4.76	8.25	15.63	20.66	0.4496	-0.2539	2.7102
13.5	4.00	4.86	8.40	15.84	20.91	0.4471	-0.2510	2.6962
14	4.08	4.95	8.53	16.00	21.09	0.4443	-0.2484	2.6642
14.5	4.13	5.03	8.63	16.10	21.24	0.4418	-0.2475	2.6156
15	4.17	5.08	8.70	16.17	21.39	0.4400	-0.2488	2.5542
15.5	4.19	5.12	8.74	16.24	21.57	0.4393	-0.2522	2.4862
16	4.20	5.15	8.78	16.31	21.79	0.4399	-0.2565	2.4179
16.5	4.20	5.16	8.80	16.39	22.05	0.4418	-0.2601	2.3531

Table 5: Subscapular skinfold thickness (in mm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	4.22	4.61	5.84	8.97	13.34	0.271	-2.3787	1.5738
3.5	4.09	4.47	5.65	8.67	12.87	0.2677	-2.3757	1.5904
4	3.98	4.34	5.48	8.39	12.44	0.2646	-2.3718	1.611
4.5	3.88	4.23	5.34	8.17	12.10	0.2622	-2.3661	1.6362
5	3.80	4.14	5.22	8.01	11.87	0.2608	-2.3571	1.6663
5.5	3.75	4.08	5.15	7.93	11.78	0.261	-2.343	1.7022
6	3.72	4.04	5.12	7.95	11.86	0.2633	-2.3216	1.7443
6.5	3.71	4.04	5.13	8.06	12.12	0.2681	-2.2912	1.7933
7	3.72	4.05	5.18	8.28	12.59	0.2754	-2.2504	1.85
7.5	3.76	4.10	5.28	8.62	13.29	0.2853	-2.1993	1.9166
8	3.82	4.16	5.42	9.08	14.25	0.2975	-2.1387	1.9959
8.5	3.89	4.25	5.59	9.66	15.48	0.3114	-2.0698	2.0897
9	3.98	4.35	5.80	10.36	16.99	0.3265	-1.9943	2.1972
9.5	4.08	4.46	6.02	11.17	18.78	0.342	-1.9146	2.3147
10	4.17	4.58	6.26	12.05	20.80	0.3571	-1.8335	2.4348
10.5	4.27	4.69	6.50	12.97	22.96	0.371	-1.7542	2.5478
11	4.36	4.80	6.73	13.88	25.14	0.3829	-1.6794	2.6442
11.5	4.44	4.90	6.96	14.72	27.18	0.3919	-1.6117	2.7144
12	4.53	5.01	7.17	15.43	28.90	0.3969	-1.5532	2.7493
12.5	4.63	5.13	7.39	15.99	30.12	0.3976	-1.5042	2.744
13	4.74	5.26	7.61	16.36	30.75	0.3942	-1.4644	2.7008
13.5	4.87	5.42	7.83	16.57	30.83	0.3876	-1.4327	2.6288
14	5.02	5.59	8.05	16.66	30.52	0.3789	-1.4075	2.5414
14.5	5.17	5.77	8.27	16.70	30.02	0.3694	-1.3874	2.4519
15	5.34	5.96	8.50	16.73	29.49	0.3602	-1.3707	2.3691
15.5	5.50	6.15	8.73	16.78	29.05	0.352	-1.356	2.2971
16	5.66	6.34	8.95	16.87	28.72	0.345	-1.342	2.2351
16.5	5.82	6.52	9.17	16.98	28.48	0.3388	-1.3285	2.181

Table 6: Subscapular skinfold thickness (in mm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	4.48	4.90	6.05	8.24	10.61	0.1978	-1.5429	1.61
3.5	4.34	4.76	5.91	8.16	10.69	0.2051	-1.5514	1.61
4	4.21	4.63	5.78	8.10	10.80	0.2126	-1.5586	1.60
4.5	4.09	4.51	5.66	8.07	10.96	0.2206	-1.5629	1.60
5	3.99	4.41	5.58	8.09	11.22	0.2295	-1.5621	1.60
5.5	3.92	4.34	5.55	8.19	11.60	0.2394	-1.5546	1.61
6	3.88	4.31	5.55	8.39	12.14	0.2504	-1.5394	1.64
6.5	3.87	4.30	5.61	8.70	12.88	0.2626	-1.5155	1.69
7	3.89	4.33	5.72	9.14	13.84	0.2763	-1.4825	1.75
7.5	3.92	4.38	5.87	9.70	15.06	0.2914	-1.4397	1.84
8	3.97	4.44	6.06	10.40	16.57	0.3081	-1.3871	1.94
8.5	4.03	4.52	6.29	11.22	18.33	0.3258	-1.3248	2.04
9	4.09	4.60	6.53	12.13	20.26	0.3439	-1.2536	2.15
9.5	4.16	4.70	6.80	13.09	22.22	0.3614	-1.1758	2.26
10	4.23	4.80	7.09	14.06	24.01	0.3774	-1.0946	2.37
10.5	4.32	4.91	7.40	15.01	25.45	0.3913	-1.014	2.46
11	4.42	5.05	7.74	15.88	26.45	0.4026	-0.9371	2.54
11.5	4.55	5.22	8.11	16.66	27.04	0.4107	-0.867	2.60
12	4.70	5.42	8.49	17.33	27.34	0.4148	-0.8065	2.61
12.5	4.89	5.65	8.90	17.89	27.45	0.4146	-0.7567	2.60
13	5.11	5.92	9.32	18.35	27.45	0.4102	-0.7179	2.57
13.5	5.36	6.22	9.74	18.69	27.36	0.4025	-0.6892	2.51
14	5.61	6.52	10.12	18.93	27.17	0.3924	-0.6697	2.45
14.5	5.88	6.82	10.47	19.07	26.92	0.3807	-0.6591	2.38
15	6.14	7.12	10.79	19.14	26.65	0.3684	-0.6563	2.32
15.5	6.39	7.39	11.06	19.18	26.36	0.3565	-0.6584	2.27
16	6.62	7.64	11.30	19.19	26.09	0.3453	-0.6626	2.22
16.5	6.84	7.88	11.52	19.20	25.83	0.3350	-0.6669	2.18

Table 7: Iliac crest skinfold thickness (in mm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	3.42	3.79	5.01	7.42	9.56	0.2511	-1.0386	2.0613
3.5	3.24	3.60	4.81	7.27	9.47	0.2614	-1.0225	2.1184
4	3.08	3.44	4.64	7.17	9.44	0.2723	-1.0062	2.1774
4.5	2.96	3.30	4.52	7.13	9.52	0.2838	-0.9896	2.2381
5	2.87	3.21	4.45	7.20	9.75	0.2962	-0.9723	2.3006
5.5	2.82	3.16	4.44	7.38	10.16	0.3097	-0.9542	2.365
6	2.79	3.14	4.49	7.68	10.76	0.3245	-0.935	2.4312
6.5	2.79	3.15	4.58	8.09	11.57	0.3407	-0.9144	2.4994
7	2.81	3.18	4.70	8.62	12.61	0.3584	-0.8922	2.5697
7.5	2.84	3.23	4.87	9.29	13.91	0.3776	-0.868	2.642
8	2.89	3.30	5.08	10.10	15.52	0.3981	-0.8418	2.7165
8.5	2.95	3.38	5.33	11.07	17.44	0.4194	-0.8136	2.7931
9	3.03	3.49	5.63	12.19	19.66	0.4411	-0.7837	2.8721
9.5	3.12	3.61	5.96	13.45	22.11	0.4622	-0.7526	2.9534
10	3.23	3.75	6.33	14.81	24.66	0.482	-0.7211	3.0372
10.5	3.34	3.90	6.71	16.19	27.12	0.4995	-0.6901	3.1234
11	3.46	4.05	7.10	17.52	29.30	0.5141	-0.6604	3.2122
11.5	3.59	4.21	7.49	18.74	31.07	0.5252	-0.6333	3.3037
12	3.71	4.36	7.85	19.80	32.39	0.5328	-0.6093	3.398
12.5	3.84	4.52	8.19	20.66	33.25	0.537	-0.5887	3.495
13	3.96	4.66	8.49	21.31	33.68	0.5386	-0.5709	3.595
13.5	4.07	4.77	8.72	21.75	33.74	0.5381	-0.5556	3.698
14	4.15	4.87	8.91	22.01	33.54	0.5364	-0.5419	3.8041
14.5	4.23	4.95	9.06	22.15	33.19	0.534	-0.5296	3.9134
15	4.30	5.02	9.19	22.26	32.82	0.5313	-0.5183	4.0261
15.5	4.37	5.10	9.33	22.39	32.54	0.5287	-0.5078	4.1421
16	4.45	5.19	9.48	22.57	32.37	0.5262	-0.4979	4.2617
16.5	4.54	5.29	9.66	22.81	32.32	0.5238	-0.4884	4.3848

Table 8: Iliac skinfold thickness (mm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu	tau
3	3.79	4.31	5.79	8.60	11.28	0.2672	-0.8387	1.7083
3.5	3.73	4.25	5.81	8.82	11.71	0.2803	-0.8139	1.7608
4	3.66	4.19	5.81	9.04	12.14	0.2941	-0.7886	1.815
4.5	3.58	4.12	5.81	9.27	12.60	0.3088	-0.7625	1.8711
5	3.50	4.05	5.81	9.52	13.10	0.3242	-0.7350	1.9289
5.5	3.44	3.99	5.84	9.83	13.69	0.3405	-0.7058	1.9887
6	3.40	3.96	5.91	10.23	14.41	0.3573	-0.6745	2.0504
6.5	3.38	3.96	6.04	10.75	15.30	0.3747	-0.6408	2.1141
7	3.40	4.01	6.24	11.42	16.38	0.3925	-0.6048	2.1798
7.5	3.45	4.09	6.51	12.25	17.68	0.4106	-0.5665	2.2478
8	3.53	4.20	6.85	13.23	19.15	0.4289	-0.5261	2.3179
8.5	3.62	4.34	7.25	14.33	20.75	0.4467	-0.4837	2.3903
9	3.73	4.50	7.69	15.52	22.39	0.4636	-0.4397	2.4652
9.5	3.84	4.67	8.17	16.75	23.99	0.4787	-0.3945	2.5424
10	3.97	4.86	8.68	17.98	25.50	0.4914	-0.3487	2.6222
10.5	4.13	5.07	9.24	19.22	26.90	0.5010	-0.3030	2.7047
11	4.31	5.32	9.84	20.44	28.17	0.5072	-0.2583	2.7898
11.5	4.52	5.60	10.48	21.62	29.32	0.5096	-0.2153	2.8778
12	4.76	5.92	11.15	22.73	30.30	0.5083	-0.1743	2.9686
12.5	5.03	6.26	11.83	23.73	31.09	0.5036	-0.1355	3.0625
13	5.32	6.61	12.47	24.57	31.64	0.4960	-0.0985	3.1595
13.5	5.59	6.94	13.05	25.18	31.91	0.4865	-0.0627	3.2597
14	5.84	7.23	13.51	25.54	31.88	0.4757	-0.0278	3.3632
14.5	6.07	7.48	13.88	25.68	31.61	0.4643	0.0064	3.4702
15	6.26	7.70	14.16	25.66	31.18	0.4526	0.0402	3.5807
15.5	6.45	7.89	14.38	25.55	30.68	0.4409	0.0736	3.6949
16	6.62	8.08	14.59	25.43	30.21	0.4295	0.1067	3.8129
16.5	6.80	8.26	14.79	25.32	29.79	0.4187	0.1396	3.9349

Table 9: Hip circumference (cm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	46.37	47.65	50.94	55.35	58.01	0.0575	-2.8970
3.5	47.55	48.86	52.23	56.74	59.46	0.0574	-2.9179
4	48.75	50.09	53.52	58.12	60.90	0.0571	-2.9387
4.5	49.95	51.31	54.81	59.51	62.35	0.0569	-2.9654
5	51.13	52.52	56.12	60.95	63.89	0.0571	-3.0037
5.5	52.29	53.73	57.45	62.49	65.58	0.0579	-3.0538
6	53.43	54.92	58.81	64.17	67.49	0.0595	-3.1106
6.5	54.54	56.11	60.23	66.00	69.66	0.0620	-3.1657
7	55.65	57.31	61.71	68.01	72.10	0.0651	-3.2083
7.5	56.76	58.53	63.25	70.17	74.80	0.0689	-3.2258
8	57.87	59.75	64.85	72.47	77.70	0.0730	-3.2074
8.5	58.99	61.00	66.49	74.86	80.74	0.0772	-3.1500
9	60.12	62.26	68.17	77.32	83.83	0.0815	-3.0545
9.5	61.26	63.56	69.90	79.80	86.91	0.0856	-2.9238
10	62.42	64.88	71.66	82.23	89.80	0.0893	-2.7637
10.5	63.61	66.22	73.42	84.54	92.41	0.0922	-2.5842
11	64.83	67.59	75.16	86.69	94.70	0.0943	-2.4001
11.5	66.10	69.00	76.89	88.70	96.73	0.0955	-2.2289
12	67.46	70.47	78.61	90.59	98.55	0.0958	-2.0847
12.5	68.94	72.04	80.34	92.36	100.17	0.0950	-1.9765
13	70.58	73.72	82.08	93.96	101.55	0.0930	-1.9131
13.5	72.38	75.51	83.79	95.40	102.71	0.0897	-1.9021
14	74.28	77.36	85.45	96.68	103.67	0.0856	-1.9482
14.5	76.19	79.19	87.03	97.83	104.52	0.0812	-2.0459
15	78.01	80.91	88.48	98.90	105.33	0.0771	-2.1831
15.5	79.66	82.47	89.81	99.91	106.16	0.0736	-2.3438
16	81.13	83.86	91.01	100.88	107.03	0.0708	-2.5131
16.5	82.42	85.10	92.10	101.84	107.95	0.0687	-2.6821

Table 10: Hip circumference (cm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	46.91	48.31	51.75	56.00	58.36	0.0573	-1.8389
3.5	48.06	49.51	53.14	57.74	60.36	0.0595	-2.1081
4	49.20	50.70	54.51	59.48	62.40	0.0616	-2.3518
4.5	50.33	51.88	55.86	61.21	64.43	0.0636	-2.5496
5	51.43	53.03	57.20	62.91	66.44	0.0655	-2.6849
5.5	52.52	54.19	58.55	64.62	68.43	0.0674	-2.7516
6	53.62	55.36	59.94	66.36	70.44	0.0693	-2.7522
6.5	54.73	56.56	61.38	68.17	72.51	0.0714	-2.6948
7	55.86	57.79	62.89	70.10	74.70	0.0738	-2.5907
7.5	56.99	59.04	64.47	72.14	77.03	0.0767	-2.4517
8	58.11	60.31	66.11	74.28	79.46	0.0798	-2.2901
8.5	59.26	61.61	67.82	76.51	81.98	0.0830	-2.1199
9	60.47	62.98	69.61	78.82	84.58	0.0861	-1.9535
9.5	61.76	64.44	71.49	81.24	87.27	0.0891	-1.8005
10	63.11	65.97	73.47	83.78	90.11	0.0920	-1.6655
10.5	64.53	67.58	75.55	86.47	93.14	0.0950	-1.5530
11	66.04	69.27	77.72	89.26	96.30	0.0978	-1.4683
11.5	67.69	71.08	79.94	92.05	99.42	0.0998	-1.4162
12	69.51	73.02	82.17	94.68	102.28	0.1002	-1.3991
12.5	71.53	75.09	84.37	97.02	104.70	0.0989	-1.4163
13	73.68	77.23	86.46	98.98	106.56	0.0958	-1.4626
13.5	75.85	79.33	88.35	100.53	107.86	0.0914	-1.5363
14	77.92	81.29	90.00	101.71	108.74	0.0865	-1.6409
14.5	79.79	83.03	91.38	102.59	109.32	0.0816	-1.7792
15	81.39	84.49	92.48	103.22	109.69	0.0772	-1.9506
15.5	82.68	85.64	93.28	103.61	109.86	0.0733	-2.1507
16	83.65	86.47	93.80	103.76	109.84	0.0700	-2.3736
16.5	84.33	87.03	94.06	103.70	109.65	0.0672	-2.6120

Table 11: Waist circumference (cm) for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	45.05	46.21	49.13	52.88	55.06	0.0520	-2.7584
3.5	45.41	46.60	49.61	53.51	55.79	0.0533	-2.7787
4	45.79	47.01	50.10	54.14	56.52	0.0544	-2.7954
4.5	46.19	47.44	50.62	54.80	57.28	0.0555	-2.8144
5	46.60	47.88	51.15	55.50	58.10	0.0568	-2.8454
5.5	47.02	48.34	51.72	56.27	59.03	0.0583	-2.8993
6	47.46	48.81	52.33	57.15	60.12	0.0604	-2.9833
6.5	47.93	49.33	53.02	58.17	61.44	0.0629	-3.0988
7	48.48	49.93	53.80	59.38	63.03	0.0659	-3.2374
7.5	49.09	50.60	54.68	60.76	64.91	0.0692	-3.3801
8	49.73	51.30	55.63	62.29	67.06	0.0729	-3.5048
8.5	50.39	52.04	56.63	63.96	69.47	0.0770	-3.5970
9	51.06	52.79	57.67	65.76	72.12	0.0815	-3.6480
9.5	51.74	53.56	58.76	67.66	74.96	0.0862	-3.6539
10	52.41	54.33	59.87	69.58	77.83	0.0909	-3.6155
10.5	53.08	55.10	60.97	71.44	80.53	0.0951	-3.5384
11	53.75	55.87	62.05	73.16	82.89	0.0987	-3.4323
11.5	54.45	56.65	63.11	74.71	84.84	0.1014	-3.3094
12	55.19	57.49	64.18	76.09	86.36	0.1030	-3.1793
12.5	56.02	58.39	65.27	77.32	87.46	0.1035	-3.0475
13	56.93	59.36	66.37	78.38	88.16	0.1030	-2.9174
13.5	57.90	60.39	67.47	79.29	88.56	0.1014	-2.7929
14	58.94	61.46	68.57	80.09	88.78	0.0992	-2.6793
14.5	60.01	62.56	69.65	80.84	88.97	0.0965	-2.5814
15	61.12	63.67	70.72	81.57	89.20	0.0937	-2.4996
15.5	62.23	64.79	71.79	82.33	89.54	0.0909	-2.4291
16	63.34	65.91	72.87	83.13	89.98	0.0883	-2.3618
16.5	64.45	67.03	73.96	83.98	90.52	0.0860	-2.2929

Table 12: Waist circumference (cm) for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	44.47	45.57	48.36	51.98	54.10	0.0507	-2.9845
3.5	44.84	45.98	48.91	52.84	55.21	0.0533	-3.2310
4	45.17	46.35	49.43	53.69	56.36	0.0561	-3.4603
4.5	45.48	46.70	49.91	54.52	57.52	0.0588	-3.6584
5	45.78	47.03	50.39	55.33	58.68	0.0615	-3.8140
5.5	46.12	47.40	50.89	56.17	59.87	0.0639	-3.9231
6	46.50	47.82	51.45	57.06	61.10	0.0662	-3.9845
6.5	46.92	48.29	52.07	58.04	62.45	0.0687	-3.9993
7	47.37	48.79	52.77	59.15	63.97	0.0717	-3.9708
7.5	47.83	49.32	53.52	60.39	65.70	0.0752	-3.9054
8	48.29	49.87	54.34	61.77	67.65	0.0792	-3.8121
8.5	48.79	50.46	55.22	63.26	69.76	0.0835	-3.7027
9	49.33	51.10	56.17	64.86	72.01	0.0879	-3.5865
9.5	49.93	51.80	57.19	66.54	74.36	0.0922	-3.4703
10	50.56	52.53	58.25	68.30	76.82	0.0965	-3.3579
10.5	51.23	53.31	59.37	70.11	79.34	0.1006	-3.2535
11	51.96	54.14	60.52	71.92	81.82	0.1043	-3.1621
11.5	52.77	55.04	61.69	73.63	84.03	0.1068	-3.0903
12	53.68	56.02	62.85	75.12	85.77	0.1078	-3.0450
12.5	54.69	57.06	63.99	76.32	86.95	0.1070	-3.0314
13	55.74	58.12	65.03	77.22	87.57	0.1047	-3.0493
13.5	56.77	59.12	65.93	77.81	87.74	0.1013	-3.0983
14	57.70	60.01	66.67	78.15	87.62	0.0976	-3.1795
14.5	58.51	60.76	67.22	78.28	87.32	0.0937	-3.2910
15	59.18	61.36	67.61	78.25	86.89	0.0898	-3.4290
15.5	59.72	61.83	67.85	78.06	86.32	0.0861	-3.5880
16	60.14	62.17	67.96	77.73	85.62	0.0825	-3.7622
16.5	60.47	62.42	67.96	77.28	84.78	0.0788	-3.9458

Table 13: Waist-to-Hip-Ratio for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	0.876	0.900	0.959	1.032	1.072	0.0530	-2.1647
3.5	0.866	0.889	0.946	1.014	1.051	0.0512	-1.7881
4	0.856	0.879	0.934	0.998	1.032	0.0494	-1.3984
4.5	0.846	0.869	0.922	0.982	1.013	0.0476	-1.0006
5	0.837	0.860	0.911	0.968	0.996	0.0461	-0.6152
5.5	0.828	0.850	0.900	0.954	0.981	0.0450	-0.2820
6	0.819	0.841	0.890	0.942	0.968	0.0443	-0.0446
6.5	0.811	0.833	0.881	0.932	0.956	0.0438	0.0600
7	0.804	0.825	0.872	0.922	0.947	0.0435	0.0147
7.5	0.798	0.818	0.865	0.915	0.939	0.0434	-0.1598
8	0.792	0.812	0.858	0.908	0.933	0.0435	-0.4241
8.5	0.787	0.807	0.853	0.903	0.928	0.0439	-0.7469
9	0.782	0.802	0.848	0.899	0.926	0.0448	-1.1059
9.5	0.777	0.797	0.843	0.897	0.925	0.0460	-1.4850
10	0.773	0.792	0.839	0.895	0.925	0.0473	-1.8698
10.5	0.769	0.788	0.835	0.893	0.924	0.0484	-2.2399
11	0.765	0.784	0.831	0.890	0.923	0.0491	-2.5713
11.5	0.761	0.780	0.826	0.886	0.921	0.0495	-2.8448
12	0.757	0.775	0.822	0.882	0.917	0.0496	-3.0485
12.5	0.754	0.772	0.818	0.878	0.913	0.0495	-3.1758
13	0.750	0.768	0.813	0.873	0.908	0.0491	-3.2172
13.5	0.747	0.765	0.809	0.868	0.902	0.0486	-3.1690
14	0.744	0.761	0.806	0.862	0.895	0.0481	-3.0370
14.5	0.741	0.759	0.803	0.858	0.890	0.0475	-2.8387
15	0.739	0.757	0.801	0.855	0.885	0.0470	-2.5931
15.5	0.739	0.757	0.800	0.853	0.882	0.0466	-2.3157
16	0.739	0.757	0.801	0.853	0.881	0.0464	-2.0129
16.5	0.740	0.758	0.803	0.855	0.882	0.0464	-1.6895

Table 14: Waist-to-Hip-Ratio for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	0.855	0.878	0.933	0.996	1.029	0.0491	-1.2502
3.5	0.844	0.866	0.920	0.981	1.013	0.0484	-1.2811
4	0.833	0.855	0.907	0.966	0.997	0.0476	-1.3064
4.5	0.823	0.844	0.894	0.952	0.982	0.0468	-1.3331
5	0.813	0.833	0.882	0.938	0.967	0.0460	-1.3727
5.5	0.803	0.823	0.871	0.925	0.954	0.0454	-1.4359
6	0.794	0.814	0.860	0.914	0.942	0.0451	-1.5244
6.5	0.785	0.804	0.850	0.903	0.931	0.0450	-1.6335
7	0.777	0.796	0.841	0.894	0.922	0.0453	-1.7534
7.5	0.769	0.788	0.833	0.886	0.915	0.0458	-1.8758
8	0.761	0.780	0.825	0.880	0.909	0.0467	-1.9953
8.5	0.753	0.772	0.818	0.874	0.904	0.0479	-2.1095
9	0.746	0.765	0.811	0.869	0.900	0.0494	-2.2197
9.5	0.738	0.757	0.805	0.864	0.897	0.0509	-2.3312
10	0.731	0.750	0.799	0.859	0.894	0.0524	-2.4544
10.5	0.724	0.744	0.792	0.855	0.891	0.0537	-2.5942
11	0.717	0.737	0.786	0.849	0.887	0.0548	-2.7492
11.5	0.711	0.730	0.779	0.844	0.882	0.0557	-2.9149
12	0.704	0.723	0.772	0.837	0.877	0.0561	-3.0925
12.5	0.699	0.717	0.765	0.830	0.871	0.0561	-3.2877
13	0.693	0.711	0.758	0.823	0.863	0.0556	-3.4986
13.5	0.688	0.706	0.751	0.815	0.856	0.0548	-3.7210
14	0.684	0.701	0.745	0.808	0.848	0.0540	-3.9498
14.5	0.680	0.696	0.739	0.801	0.841	0.0533	-4.1790
15	0.676	0.691	0.734	0.795	0.836	0.0529	-4.4042
15.5	0.672	0.688	0.729	0.790	0.832	0.0525	-4.6234
16	0.670	0.685	0.726	0.787	0.829	0.0522	-4.8363
16.5	0.668	0.683	0.723	0.784	0.827	0.0519	-5.0424

Table 15: Waist-to-Height-Ratio for boys (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	0.465	0.478	0.508	0.545	0.566	0.0513	-2.0646
3.5	0.453	0.465	0.496	0.533	0.553	0.0524	-2.1158
4	0.441	0.454	0.483	0.521	0.541	0.0534	-2.1638
4.5	0.430	0.442	0.472	0.509	0.530	0.0544	-2.2183
5	0.420	0.432	0.461	0.499	0.520	0.0555	-2.2955
5.5	0.411	0.423	0.452	0.490	0.511	0.0569	-2.4128
6	0.403	0.414	0.444	0.482	0.505	0.0586	-2.5849
6.5	0.396	0.407	0.437	0.477	0.501	0.0606	-2.8199
7	0.390	0.402	0.432	0.473	0.500	0.0625	-3.1136
7.5	0.386	0.398	0.428	0.471	0.500	0.0644	-3.4437
8	0.384	0.395	0.425	0.471	0.503	0.0662	-3.7797
8.5	0.382	0.393	0.423	0.471	0.507	0.0681	-4.0988
9	0.380	0.391	0.422	0.473	0.513	0.0704	-4.3860
9.5	0.379	0.389	0.421	0.475	0.521	0.0730	-4.6324
10	0.377	0.388	0.420	0.478	0.530	0.0758	-4.8330
10.5	0.375	0.387	0.419	0.480	0.537	0.0785	-4.9851
11	0.374	0.385	0.418	0.481	0.542	0.0809	-5.0880
11.5	0.371	0.383	0.416	0.482	0.546	0.0830	-5.1410
12	0.369	0.380	0.414	0.481	0.547	0.0847	-5.1430
12.5	0.367	0.378	0.412	0.480	0.547	0.0859	-5.0921
13	0.365	0.376	0.411	0.479	0.546	0.0866	-4.9873
13.5	0.363	0.375	0.409	0.477	0.543	0.0870	-4.8308
14	0.361	0.373	0.408	0.475	0.539	0.0872	-4.6290
14.5	0.360	0.372	0.407	0.473	0.535	0.0871	-4.3937
15	0.360	0.372	0.407	0.472	0.530	0.0869	-4.1365
15.5	0.360	0.373	0.409	0.472	0.526	0.0866	-3.8667
16	0.362	0.374	0.411	0.473	0.523	0.0861	-3.5900
16.5	0.364	0.377	0.414	0.474	0.521	0.0855	-3.3113

Table 16: Waist-to-Height-Ratio for girls (3 to 16 years)

age	3rd	10th	50th (M)	90th	97th	sigma	nu
3	0.465	0.477	0.507	0.544	0.564	0.0510	-2.0008
3.5	0.452	0.464	0.495	0.533	0.555	0.0533	-2.3970
4	0.440	0.452	0.482	0.522	0.546	0.0556	-2.7742
4.5	0.429	0.440	0.471	0.512	0.537	0.0577	-3.1160
5	0.418	0.430	0.460	0.502	0.529	0.0594	-3.4083
5.5	0.409	0.420	0.450	0.493	0.522	0.0608	-3.6456
6	0.401	0.412	0.442	0.486	0.516	0.0622	-3.8269
6.5	0.394	0.405	0.435	0.480	0.511	0.0637	-3.9537
7	0.388	0.399	0.429	0.475	0.509	0.0657	-4.0283
7.5	0.383	0.394	0.424	0.473	0.508	0.0682	-4.0532
8	0.378	0.389	0.420	0.471	0.509	0.0713	-4.0329
8.5	0.373	0.385	0.417	0.470	0.512	0.0747	-3.9762
9	0.369	0.381	0.414	0.470	0.515	0.0785	-3.8939
9.5	0.365	0.377	0.412	0.471	0.519	0.0824	-3.7979
10	0.361	0.373	0.410	0.472	0.524	0.0865	-3.6993
10.5	0.357	0.370	0.408	0.474	0.530	0.0905	-3.6060
11	0.355	0.368	0.407	0.476	0.535	0.0943	-3.5221
11.5	0.353	0.367	0.406	0.478	0.540	0.0972	-3.4501
12	0.352	0.366	0.406	0.479	0.542	0.0989	-3.3914
12.5	0.352	0.366	0.407	0.480	0.543	0.0995	-3.3470
13	0.352	0.366	0.407	0.479	0.542	0.0990	-3.3175
13.5	0.353	0.367	0.407	0.479	0.539	0.0977	-3.3079
14	0.354	0.368	0.408	0.477	0.535	0.0958	-3.3266
14.5	0.355	0.369	0.408	0.475	0.531	0.0934	-3.3755
15	0.357	0.370	0.408	0.473	0.527	0.0908	-3.4520
15.5	0.358	0.371	0.408	0.471	0.522	0.0879	-3.5504
16	0.360	0.372	0.408	0.468	0.517	0.0847	-3.6642
16.5	0.362	0.374	0.408	0.466	0.512	0.0814	-3.7861

Equations of BFP (%) in white children and adolescents of Slaughter:

Males < 12 years: $1.21 \times \text{triceps} + \text{subscapular} - 0.008 \times (\text{triceps} + \text{subscapular})^2 - 1.7$

Males >12 and <14 years: $1.21 \times \text{triceps} + \text{subscapular} - 0.008 \times (\text{triceps} + \text{subscapular})^2 - 3.4$

Males >14 years: $1.21 \times \text{triceps} + \text{subscapular} - 0.008 \times (\text{triceps} + \text{subscapular})^2 - 5.5$

Females: $1.33 \times (\text{triceps} + \text{subscapular}) - 0.013 \times (\text{triceps} + \text{subscapular})^2 - 2.5$

If the sum of the triceps and subscapular measurements are >35, the following equations are suggested:

Males: $0.783 \times (\text{triceps} + \text{subscapular}) + 1.6$

Females: $0.546 \times (\text{triceps} + \text{subscapular}) + 9.7$