

**Appendix 2.** L, M, and S parameters and z score for length/height for age: boys 0 to 60 months.

Age (M)	L	M	S	-3	-2	-1	0	1	2	3
0	-1.87751	50.57602	0.0493	44.82788	46.21217	48.25975	50.57602	53.244	56.38376	59.12834
1	-1.875372	53.74355	0.0507	47.47713	48.98096	51.21139	53.74355	56.67268	60.13776	63.18356
2	-1.822278	56.81033	0.0521	50.02127	51.64881	54.06478	56.81033	59.98968	63.75504	67.06822
3	-1.681525	59.67986	0.0532	52.36938	54.1276	56.73127	59.67986	63.0789	67.08037	70.57738
4	-1.427597	62.30298	0.0539	54.4682	56.36948	59.16587	62.30298	65.87703	70.02219	73.58617
5	-1.040973	64.65456	0.0543	56.27753	58.34317	61.34385	64.65456	68.35168	72.53635	76.04354
6	-0.4877291	66.72834	0.0545	57.75378	60.02363	63.25488	66.72834	70.49335	74.6111	77.94648
7	0.2181983	68.53925	0.0544	58.87507	61.40789	64.90859	68.53925	72.32677	76.30225	79.40141
8	0.9908746	70.13326	0.0543	59.68019	62.54087	66.3484	70.13326	73.91999	77.73318	80.60061
9	1.735161	71.56539	0.0542	60.24654	63.49252	67.6307	71.56539	75.34705	79.01737	81.69571
10	2.366868	72.88995	0.0541	60.69356	64.35099	68.81549	72.88995	76.67468	80.24224	82.78749
11	2.825259	74.14188	0.0540	61.16105	65.19634	69.9447	74.14188	77.94505	81.4585	83.92789
12	3.061383	75.33276	0.0540	61.8143	66.10107	71.04093	75.33276	79.17231	82.68396	85.13416
13	3.052275	76.46193	0.0539	62.77931	67.11347	72.11369	76.46193	80.35452	83.91646	86.40266
14	2.851255	77.5274	0.0538	63.9856	68.20135	73.15467	77.5274	81.48573	85.1396	87.70614
15	2.533357	78.52913	0.0537	65.2865	69.30466	74.15193	78.52913	82.56099	86.33515	89.01373
16	2.158107	79.47268	0.0536	66.57682	70.38158	75.10133	79.47268	83.58185	87.49405	90.3064
17	1.78178	80.36989	0.0534	67.78763	71.40448	76.00518	80.36989	84.55663	88.61299	91.56889
18	1.449199	81.23001	0.0534	68.88184	72.35592	76.86494	81.23001	85.49211	89.68765	92.78408
19	1.174186	82.06313	0.0534	69.85961	73.23568	77.68559	82.06313	86.40034	90.72782	93.95711
20	0.9528638	82.8812	0.0535	70.74258	74.05724	78.47769	82.8812	87.29576	91.74973	95.10446
21	0.7820513	83.69051	0.0537	71.55103	74.83355	79.24943	83.69051	88.18358	92.75687	96.22733
22	0.66294	84.4917	0.0539	72.29609	75.57153	80.00418	84.4917	89.06104	93.74136	97.31229
23	0.6002053	85.27979	0.0541	72.97359	76.26687	80.73766	85.27979	89.92076	94.69071	98.34082
24	0.5933998	86.05149	0.0544	73.58066	76.91632	81.44664	86.05149	90.75879	95.59916	99.30464

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.

25	0.635819	86.8067	0.0547	74.12466	77.5245	82.1329	86.8067	91.57401	96.46542	100.2029
26	0.7158352	87.547	0.0550	74.61673	78.09861	82.79983	87.547	92.36848	97.2947	101.0451
27	0.8127472	88.27386	0.0552	75.07845	78.65152	83.45232	88.27386	93.14523	98.097	101.8503
28	0.9034683	88.98704	0.0554	75.53731	79.19872	84.09501	88.98704	93.90517	98.88058	102.6366
29	0.9808332	89.68436	0.0556	75.99998	79.74262	84.72683	89.68436	94.64715	99.6473	103.409
30	1.042002	90.36747	0.0558	76.47066	80.28564	85.34918	90.36747	95.37408	100.4022	104.1747
31	1.083874	91.04003	0.0559	76.9574	80.83346	85.96603	91.04003	96.09042	101.1513	104.9415
32	1.10336	91.70291	0.0560	77.46729	81.39027	86.57921	91.70291	96.79717	101.8968	105.7127
33	1.104824	92.35574	0.0561	77.99816	81.95515	87.1886	92.35574	97.49274	102.6347	106.482
34	1.097258	92.99917	0.0561	78.54322	82.52545	87.79451	92.99917	98.17564	103.3591	107.2388
35	1.088946	93.63506	0.0561	79.09068	83.09519	88.39621	93.63506	98.84794	104.0702	107.9803
36	1.084698	94.26514	0.0561	79.63136	83.6594	88.99288	94.26514	99.51254	104.7705	108.7082
37	1.081271	94.89258	0.0561	80.16847	84.22051	89.58679	94.89258	100.1743	105.4678	109.4325
38	1.068352	95.52284	0.0561	80.71821	84.78913	90.18433	95.52284	100.841	106.1746	110.1716
39	1.038443	96.1609	0.0561	81.29681	85.3765	90.79237	96.1609	101.5179	106.8989	110.9368
40	0.9886311	96.8083	0.0560	81.91278	85.98858	91.41418	96.8083	102.2058	107.6418	111.73
41	0.9214233	97.46544	0.0560	82.56316	86.62415	92.04984	97.46544	102.9048	108.4025	112.5496
42	0.8441233	98.12821	0.0559	83.23696	87.27615	92.69503	98.12821	103.6087	109.1709	113.3814
43	0.7616509	98.7894	0.0558	83.92781	87.93941	93.34442	98.7894	104.3069	109.9315	114.2052
44	0.6774815	99.44069	0.0556	84.62923	88.60797	93.99156	99.44069	104.9879	110.6683	115.0013
45	0.5995991	100.0754	0.0553	85.32943	89.27336	94.63016	100.0754	105.6419	111.3658	115.7476
46	0.5365254	100.689	0.0550	86.01534	89.9267	95.25487	100.689	106.2626	112.0128	116.4274
47	0.4959931	101.2785	0.0545	86.67228	90.55778	95.85997	101.2785	106.8471	112.6038	117.0312
48	0.4868464	101.8398	0.0541	87.28217	91.15382	96.4382	101.8398	107.3926	113.1344	117.5515
49	0.5115138	102.3732	0.0536	87.83341	91.7065	96.9855	102.3732	107.903	113.6123	117.9985
50	0.5623452	102.882	0.0532	88.32417	92.21362	97.50127	102.882	108.3889	114.0581	118.4026
51	0.6362491	103.3707	0.0529	88.75188	92.67393	97.98656	103.3707	108.8588	114.4862	118.7838
52	0.7322497	103.8417	0.0527	89.11469	93.08694	98.44243	103.8417	109.3172	114.9035	119.1513

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.

53	0.8491513	104.2983	0.0525	89.41448	93.45528	98.87194	104.2983	109.7675	115.3142	119.5104
54	0.9882629	104.7412	0.0525	89.64999	93.77944	99.27634	104.7412	110.2094	115.7165	119.8581
55	1.15059	105.1721	0.0525	89.81979	94.0603	99.65757	105.1721	110.6434	116.1095	120.1928
56	1.336068	105.5937	0.0526	89.92252	94.29928	100.0185	105.5937	111.0717	116.4952	120.5165
57	1.542959	106.0069	0.0528	89.95164	94.49361	100.3587	106.0069	111.4961	116.8768	120.8342
58	1.76704	106.4152	0.0531	89.90839	94.6468	100.6821	106.4152	111.9205	117.2595	121.1529
59	2.000533	106.8234	0.0534	89.80546	94.76972	100.9962	106.8234	112.3486	117.6479	121.4791
60	2.234134	107.2332	0.0537	89.66132	94.87531	101.3071	107.2332	112.7804	118.0428	121.8155

Source: El Mouzan MI, Shaffi A, Al Salloum A, Alqurashi MM, Al Herbish A, Al Omer A. Z-score growth reference data for Saudi preschool children. Ann Saudi Med 2017; 37(1): 10-15.