

Table 214. Forced vital capacity (FVC) in relation to body height in boys

Height cm	FVC, ml		
	mean	lower limits	upper limits
115	1,338	1,158	1,545
116	1,372	1,188	1,585
118	1,443	1,249	1,667
120	1,516	1,313	1,751
122	1,592	1,378	1,838
124	1,669	1,445	1,928
126	1,750	1,515	2,021
128	1,833	1,587	2,116
130	1,918	1,661	2,215
132	2,006	1,737	2,317
134	2,096	1,815	2,421
136	2,190	1,896	2,529
138	2,286	1,979	2,640
140	2,384	2,064	2,754
142	2,486	2,152	2,871
144	2,590	2,242	2,991
146	2,697	2,335	3,115
148	2,807	2,430	3,242
150	2,920	2,528	3,372
152	3,035	2,628	3,506
154	3,154	2,731	3,643
156	3,276	2,837	3,783
158	3,401	2,945	3,928
160	3,529	3,056	4,075
162	3,660	3,169	4,227
164	3,794	3,285	4,382
166	3,932	3,404	4,541
168	4,072	3,526	4,703
170	4,216	3,651	4,870
172	4,364	3,778	5,040
174	4,514	3,909	5,214
176	4,669	4,042	5,392
178	4,826	4,179	5,574
180	4,987	4,318	5,759

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{body height (cm)}$ ; $\log \text{FVC (ml)} = -2.9236 + 2.9360 \cdot \log \text{height (cm)}$ ;SD  $\log y \cdot x = \pm 0.0312$ ;  $n = 60$ ;  $r = +0.96$ .

Table 215. Forced vital capacity (FVC) in relation to age in boys

Age years	FVC, ml		
	mean	lower limits	upper limits
6	1,394	1,040	1,869
7	1,659	1,238	2,223
8	1,928	1,438	2,584
9	2,201	1,643	2,950
10	2,479	1,849	3,322
11	2,760	2,059	3,698
12	3,044	2,271	4,079
13	3,331	2,485	4,464
14	3,621	2,702	4,853
15	3,913	2,920	5,245
16	4,208	3,140	5,640
17	4,506	3,362	6,038

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{age (years)}$ ; $\log \text{FVC (ml)} = 2.2682 + 1.1260 \cdot \log \text{age (years)}$ ;SD  $\log y \cdot x = \pm 0.0635$ ;  $n = 60$ ;  $r = +0.83$ .

Table 216. Forced vital capacity (FVC) in relation to body surface in boys

Body surface $\text{m}^2$	FVC, ml		
	mean	lower limits	upper limits
0.6	978	775	1,234
0.7	1,218	965	1,536
0.8	1,472	1,168	1,857
0.9	1,739	1,379	2,195
1.0	2,020	1,601	2,549
1.1	2,313	1,833	2,918
1.2	2,616	2,074	3,301
1.3	2,931	2,323	3,698
1.4	3,256	2,581	4,108
1.5	3,591	2,846	4,531
1.6	3,936	3,120	4,965
1.7	4,289	3,400	5,411
1.8	4,652	3,687	5,869
1.9	5,023	3,981	6,337
2.0	5,402	4,282	6,815

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{body surface (m}^2\text{)}$ ; $\log \text{FVC (ml)} = 3.3054 + 1.4188 \cdot \log \text{body surface (m}^2\text{)}$ ;SD  $\log y \cdot x = \pm 0.0504$ ;  $n = 60$ ;  $r = +0.89$ .

Table 217. Forced vital capacity (FVC) in relation to body height in girls

Height cm	FVC, ml		
	mean	lower limits	upper limits
115	1,268	1,031	1,560
116	1,300	1,056	1,599
118	1,364	1,108	1,678
120	1,430	1,162	1,759
122	1,498	1,218	1,843
124	1,568	1,275	1,930
126	1,641	1,334	2,019
128	1,715	1,394	2,110
130	1,792	1,456	2,205
132	1,871	1,520	2,302
134	1,952	1,586	2,401
136	2,035	1,654	2,504
138	2,120	1,723	2,609
140	2,208	1,795	2,717
142	2,298	1,868	2,828
144	2,391	1,943	2,941
146	2,485	2,020	3,058
148	2,583	2,099	3,178
150	2,682	2,180	3,300
152	2,784	2,263	3,426
154	2,889	2,348	3,554
156	2,996	2,435	3,686
158	3,105	2,524	3,821
160	3,217	2,615	3,958
162	3,332	2,708	4,099
164	3,449	2,804	4,244
166	3,569	2,901	4,391
168	3,692	3,001	4,542
170	3,817	3,102	4,696
172	3,945	3,206	4,853
174	4,075	3,313	5,014
176	4,209	3,421	5,178
178	4,345	3,532	5,346
180	4,484	3,645	5,517

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{body height (cm)}$ ; $\log \text{FVC (ml)} = -2.7040 + 2.8181 \cdot \log \text{height (cm)}$ ;SD  $\log y \cdot x = \pm 0.0447$ ;  $n = 51$ ;  $r = +0.94$ .

Table 218. Forced vital capacity (FVC) in relation to age in girls

Age years	FVC, ml		
	mean	lower limits	upper limits
6	1,302	914	1,856
7	1,551	1,088	2,210
8	1,804	1,266	2,571
9	2,062	1,446	2,938
10	2,323	1,630	3,311
11	2,588	1,816	3,688
12	2,856	2,004	4,070
13	3,127	2,194	4,456
14	3,401	2,386	4,847
15	3,677	2,580	5,241
16	3,956	2,776	5,638
17	4,237	2,973	6,039

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{age (years)}$ ; $\log \text{FVC (ml)} = 2.2335 + 1.1325 \cdot \log \text{age (years)}$ ;SD  $\log y \cdot x = \pm 0.0765$ ;  $n = 51$ ;  $r = +0.83$ .

Table 219. Forced vital capacity (FVC) in relation to body surface in girls

Body surface m <sup>2</sup>	FVC, ml		
	mean	lower limits	upper limits
0.6	872	727	1,048
0.7	1,087	905	1,305
0.8	1,316	1,095	1,580
0.9	1,557 ↔	1,296	1,869
1.0	1,809 ↔	1,507	2,172
1.1	2,073 ↔	1,727	2,489
1.2	1,955 ↔	2,347	2,818
1.3	2,192 ↔	2,632	3,160
1.4	2,437 ↔	2,925	3,512
1.5	2,689 ↔	3,228	3,876
1.6	2,948 ↔	3,540	4,250
1.7	3,215 ↔	3,860	4,634
1.8	3,488 ↔	4,188	5,028
1.9	3,768 ↔	4,524	5,431
2.0	4,868 ↔	4,054	5,844

Formula:  $\log y = a + b \cdot \log x$ ; $y = \text{FVC (ml)}$ ;  $x = \text{body surface (m}^2\text{)}$ ; $\log \text{FVC (ml)} = 3.2576 + 1.4274 \cdot \log \text{body surface (m}^2\text{)}$ ;SD  $\log y \cdot x = \pm 0.0398$ ;  $n = 51$ ;  $r = +0.95$ .

Table 182. Peak expiratory flow rate (PEFR) in relation to body height in boys and girls

Height cm	PEFR, liters/s		
	mean	lower limits	upper limits
115	2.85	2.05	3.96
116	2.91	2.09	4.04
118	3.03	2.18	4.21
120	3.15	2.26	4.38
122	3.27	2.35	4.55
124	3.40	2.44	4.73
126	3.53	2.54	4.91
128	3.66	2.63	5.09
130	3.80	2.73	5.28
132	3.94	2.83	5.47
134	4.08	2.93	5.67
136	4.22	3.04	5.87
138	4.37	3.14	6.08
140	4.52	3.25	6.28
142	4.67	3.36	6.50
144	4.83	3.47	6.71
146	4.99	3.59	6.93
148	5.15	3.70	7.16
150	5.31	3.82	7.39
152	5.48	3.94	7.62
154	5.65	4.07	7.86
156	5.83	4.19	8.10
158	6.00	4.32	8.34
160	6.18	4.45	8.59
162	6.36	4.58	8.85
164	6.55	4.71	9.11
166	6.74	4.85	9.37
168	6.93	4.99	9.64
170	7.13	5.13	9.91
172	7.32	5.27	10.18
174	7.53	5.41	10.46
176	7.73	5.56	10.75
178	7.94	5.71	11.03
180	8.15	5.86	11.33

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{PEFR (l/s)}$ ;  $x = \text{body height (cm)}$ ;

$\log \text{PEFR (l/s)} = -4.3722 + 2.3422 \cdot \log \text{body height (cm)}$ ;

SD  $\log y \cdot x = \pm 0.0717$ ;  $n = 76$ ;  $r = +0.83$ .

Table 183. Peak expiratory flow rate (PEFR) in relation to age in boys and girls

Age years	PEFR, liters/s		
	mean	lower limits	upper limits
6	2.76	1.96	3.89
7	3.23	2.29	4.56
8	3.70	2.63	5.22
9	4.18	2.96	5.88
10	4.65	3.30	6.55
11	5.12	3.63	7.22
12	5.60	3.97	7.89
13	6.07	4.31	8.56
14	6.55	4.65	9.23
15	7.02	4.98	9.90
16	7.50	5.32	10.57
17	7.98	5.66	11.24

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{PEFR (l/s)}$ ;  $x = \text{age (years)}$ ;

$\log \text{PEFR (l/s)} = -0.3490 + 1.0168 \cdot \log \text{age (years)}$ ;

SD  $\log y \cdot x = \pm 0.0746$ ;  $n = 76$ ;  $r = +0.81$ .

Table 184. Peak expiratory flow rate (PEFR) in relation to body surface in boys and girls

Body surface m <sup>2</sup>	PEFR, liters/s		
	mean	lower limits	upper limits
0.6	2.08	1.50	2.89
0.7	2.51	1.81	3.49
0.8	2.95	2.13	4.10
0.9	3.41	2.45	4.73
1.0	3.87	2.79	5.37
1.1	4.34	3.13	6.03
1.2	4.83	3.48	6.70
1.3	5.32	3.83	7.38
1.4	5.82	4.19	8.07
1.5	6.32	4.55	8.78
1.6	6.84	4.92	9.49
1.7	7.36	5.30	10.21
1.8	7.88	5.68	10.95
1.9	8.42	6.06	11.69
2.0	8.96	6.45	12.43

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{PEFR (l/s)}$ ;  $x = \text{body surface (m}^2\text{)}$ ;

$\log \text{PEFR (l/s)} = 0.5882 + 1.2095 \cdot \log \text{body surface (m}^2\text{)}$ ;

SD  $\log y \cdot x = \pm 0.0714$ ;  $n = 76$ ;  $r = +0.82$ .

**Table 224. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to body height in boys**

Height cm	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
115	1,135	952	1,352
116	1,163	976	1,386
118	1,222	1,025	1,456
120	1,282	1,076	1,528
122	1,345	1,128	1,602
124	1,409	1,182	1,679
126	1,475	1,238	1,758
128	1,544	1,295	1,839
130	1,614	1,354	1,923
132	1,686	1,415	2,009
134	1,761	1,478	2,098
136	1,837	1,542	2,189
138	1,916	1,608	2,283
140	1,997	1,676	2,380
142	2,080	1,746	2,479
144	2,165	1,817	2,580
146	2,253	1,891	2,685
148	2,343	1,966	2,792
150	2,435	2,043	2,901
152	2,529	2,123	3,014
154	2,626	2,204	3,129
156	2,725	2,287	3,248
158	2,827	2,372	3,369
160	2,931	2,460	3,493
162	3,038	2,549	3,620
164	3,147	2,641	3,749
166	3,258	2,734	3,882
168	3,372	2,830	4,018
170	3,489	2,928	4,157
172	3,608	3,028	4,299
174	3,730	3,130	4,445
176	3,854	3,235	4,593
178	3,982	3,342	4,744
180	4,112	3,451	4,899

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{FEV}_1$  (ml);  $x = \text{body height}$  (cm);

$\log \text{FEV}_1$  (ml) =  $-2.8652 + 2.8729 \cdot \log \text{body height}$  (cm);

SD  $\log y \cdot x = \pm 0.0380$ ;  $n = 60$ ;  $r = +0.94$ .

**Table 225. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to age in boys**

Age years	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
6	1,165	869	1,561
7	1,385	1,033	1,857
8	1,610	1,201	2,158
9	1,838	1,371	2,463
10	2,069	1,543	2,773
11	2,303	1,718	3,086
12	2,539	1,890	3,403
13	2,778	2,073	3,724
14	3,020	2,253	4,047
15	3,263	2,435	4,374
16	3,509	2,618	4,703
17	3,756	2,803	5,035

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{FEV}_1$  (ml);  $x = \text{age}$  (years);

$\log \text{FEV}_1$  (ml) =  $2.1917 + 1.1240 \cdot \log \text{age}$  (years);

SD  $\log y \cdot x = \pm 0.0635$ ;  $n = 60$ ;  $r = +0.83$ .

**Table 226. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to body surface in boys**

Body surface m <sup>2</sup>	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
0.6	846	652	1,097
0.7	1,045	806	1,355
0.8	1,255	968	1,628
0.9	1,475	1,138	1,913
1.0	1,705	1,315	2,211
1.1	1,943	1,498	2,520
1.2	2,190	1,688	2,839
1.3	2,444	1,884	3,169
1.4	2,705	2,086	3,508
1.5	2,974	2,293	3,856
1.6	3,249	2,506	4,213
1.7	3,531	2,723	4,579
1.8	3,819	2,945	4,952
1.9	4,113	3,172	5,333
2.0	4,413	3,403	5,722

Formula:  $\log y = a + b \cdot \log x$ ;

$y = \text{FEV}_1$  (ml);  $x = \text{body surface}$  (m<sup>2</sup>);

$\log \text{FEV}_1$  (ml) =  $3.2318 + 1.3717 \cdot \log \text{body surface}$  (m<sup>2</sup>);

SD  $\log y \cdot x = \pm 0.0563$ ;  $n = 60$ ;  $r = +0.87$ .

**Table 227. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to body height in girls**

Height cm	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
115	1,105	883	1,382
116	1,131	905	1,415
118	1,186	948	1,483
120	1,242	993	1,553
122	1,299	1,039	1,625
124	1,358	1,086	1,699
126	1,419	1,135	1,775
128	1,482	1,185	1,853
130	1,546	1,236	1,934
132	1,612	1,289	2,016
134	1,680	1,344	2,101
136	1,750	1,399	2,188
138	1,821	1,457	2,278
140	1,895	1,515	2,369
142	1,970	1,575	2,463
144	2,047	1,637	2,560
146	2,126	1,700	2,658
148	2,207	1,765	2,759
150	2,289	1,831	2,863
152	2,374	1,898	2,969
154	2,461	1,968	3,077
156	2,549	2,039	3,188
158	2,640	2,111	3,301
160	2,732	2,185	3,417
162	2,827	2,261	3,535
164	2,924	2,338	3,656
166	3,023	2,417	3,780
168	3,124	2,498	3,906
170	3,227	2,580	4,035
172	3,332	2,664	4,166
174	3,439	2,750	4,300
176	3,549	2,838	4,437
178	3,660	2,927	4,577
180	3,774	3,018	4,719

 Formula:  $\log y = a + b \cdot \log x$ ;

 $y = \text{FEV}_1$  (ml);  $x = \text{body height}$  (cm);

 $\log \text{FEV}_1$  (ml) =  $-2.6056 + 2.7413 \cdot \log \text{body height}$  (cm);

 SD  $\log y \cdot x = \pm 0.0483$ ;  $n = 51$ ;  $r = +0.93$ .

**Table 227a. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to age in girls**

Age years	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
6	1,136	792	1,627
7	1,345	939	1,928
8	1,558	1,087	2,233
9	1,773	1,237	2,541
10	1,991	1,389	2,853
11	2,211	1,543	3,158
12	2,433	1,698	3,486
13	2,659	1,854	3,807
14	2,882	2,011	4,130
15	3,109	2,170	4,455
16	3,337	2,329	4,782
17	3,567	2,489	5,112

 Formula:  $\log y = a + b \cdot \log x$ ;

 $y = \text{FEV}_1$  (ml);  $x = \text{age}$  (years);

 $\log \text{FEV}_1$  (ml) =  $2.2003 + 1.0988 \cdot \log \text{age}$  (years);

 SD  $\log y \cdot x = \pm 0.0777$ ;  $n = 51$ ;  $r = +0.81$ .

**Table 228. Forced expiratory volume in the first second (FEV<sub>1</sub>) in relation to body surface in girls**

Body surface m <sup>2</sup>	FEV <sub>1</sub> , ml		
	mean	lower limits	upper limits
0.6	774	624	959
0.7	957	772	1,186
0.8	1,150	929	1,425
0.9	1,353	1,092	1,677
1.0	1,565	1,263	1,939
1.1	1,785	1,441	2,211
1.2	2,012	1,624	2,493
1.3	2,247	1,814	2,784
1.4	2,489	2,009	3,083
1.5	2,737	2,209	3,391
1.6	2,992	2,415	3,706
1.7	3,253	2,626	4,030
1.8	3,519	2,841	4,360
1.9	3,792	3,061	4,697
2.0	4,070	3,285	5,041

 Formula:  $\log y = a + b \cdot \log x$ ;

 $y = \text{FEV}_1$  (ml);  $x = \text{body surface}$  (m<sup>2</sup>);

 $\log \text{FEV}_1$  (ml) =  $3.1946 + 1.3784 \cdot \log \text{body surface}$  (m<sup>2</sup>);

 SD  $\log y \cdot x = \pm 0.0462$ ;  $n = 51$ ;  $r = +0.93$ .