

TABLE 4 BP Levels for Boys by Age and Height Percentile

Age (y)	BP Percentile	SBP (mm Hg)										DBP (mm Hg)											
		Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height						
		5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	
1	Height (in)	30.4	30.8	31.6	32.4	33.3	34.1	34.6	30.4	30.8	31.6	32.4	33.3	34.1	34.6	30.4	30.8	31.6	32.4	33.3	34.1	34.6	34.6
	Height (cm)	77.2	78.3	80.2	82.4	84.6	86.7	87.9	77.2	78.3	80.2	82.4	84.6	86.7	87.9	77.2	78.3	80.2	82.4	84.6	86.7	87.9	87.9
	50th	85	85	86	86	87	88	88	85	85	86	86	87	88	88	85	85	86	86	87	88	88	88
	90th	98	99	99	100	100	101	101	98	99	99	100	100	101	101	98	99	99	100	100	101	101	101
	95th + 12 mm Hg	114	102	103	103	104	105	105	114	102	103	103	104	105	105	114	102	103	103	104	105	105	105
2	Height (in)	33.9	34.4	35.3	36.3	37.3	38.2	38.8	33.9	34.4	35.3	36.3	37.3	38.2	38.8	33.9	34.4	35.3	36.3	37.3	38.2	38.8	
	Height (cm)	86.1	87.4	89.6	92.1	94.7	97.1	98.5	86.1	87.4	89.6	92.1	94.7	97.1	98.5	86.1	87.4	89.6	92.1	94.7	97.1	98.5	
	50th	87	87	88	89	89	90	91	87	87	88	89	89	90	91	87	87	88	89	89	90	91	
	90th	100	100	101	102	103	103	104	100	100	101	102	103	103	104	100	100	101	102	103	103	104	
	95th + 12 mm Hg	116	105	105	106	107	107	108	116	105	105	106	107	107	108	116	105	105	106	107	107	108	
3	Height (in)	36.4	37	37.9	39	40.1	41.1	41.7	36.4	37	37.9	39	40.1	41.1	41.7	36.4	37	37.9	39	40.1	41.1	41.7	
	Height (cm)	92.5	93.9	96.3	99	101.8	104.3	105.8	92.5	93.9	96.3	99	101.8	104.3	105.8	92.5	93.9	96.3	99	101.8	104.3	105.8	
	50th	88	89	89	90	91	92	92	88	89	89	90	91	92	92	88	89	89	90	91	92	92	
	90th	101	102	102	103	104	105	105	101	102	102	103	104	105	105	101	102	102	103	104	105	105	
	95th + 12 mm Hg	118	106	107	107	108	109	109	118	106	107	107	108	109	109	118	106	107	107	108	109	109	
4	Height (in)	38.8	39.4	40.5	41.7	42.9	43.9	44.5	38.8	39.4	40.5	41.7	42.9	43.9	44.5	38.8	39.4	40.5	41.7	42.9	43.9	44.5	
	Height (cm)	98.5	100.2	102.9	105.9	108.9	111.5	113.2	98.5	100.2	102.9	105.9	108.9	111.5	113.2	98.5	100.2	102.9	105.9	108.9	111.5	113.2	
	50th	90	90	91	92	93	94	94	90	90	91	92	93	94	94	90	90	91	92	93	94	94	
	90th	102	103	104	105	105	106	107	102	103	104	105	105	106	107	102	103	104	105	105	106	107	
	95th + 12 mm Hg	119	107	108	108	109	110	110	119	107	108	108	109	110	110	119	107	108	108	109	110	110	
5	Height (in)	41.1	41.8	43.0	44.3	45.5	46.7	47.4	41.1	41.8	43.0	44.3	45.5	46.7	47.4	41.1	41.8	43.0	44.3	45.5	46.7	47.4	
	Height (cm)	104.4	106.2	109.1	112.4	115.7	118.6	120.3	104.4	106.2	109.1	112.4	115.7	118.6	120.3	104.4	106.2	109.1	112.4	115.7	118.6	120.3	
	50th	91	92	93	94	95	96	96	91	92	93	94	95	96	96	91	92	93	94	95	96	96	
	90th	103	104	105	106	107	108	108	103	104	105	106	107	108	108	103	104	105	106	107	108	108	
	95th + 12 mm Hg	119	107	108	109	110	111	112	119	107	108	109	110	111	112	119	107	108	109	110	111	112	
6	Height (in)	43.4	44.2	45.4	46.8	48.2	49.4	50.2	43.4	44.2	45.4	46.8	48.2	49.4	50.2	43.4	44.2	45.4	46.8	48.2	49.4	50.2	
	Height (cm)	110.3	112.2	115.3	118.9	122.4	125.6	127.5	110.3	112.2	115.3	118.9	122.4	125.6	127.5	110.3	112.2	115.3	118.9	122.4	125.6	127.5	
	50th	93	93	94	95	96	97	98	93	93	94	95	96	97	98	93	93	94	95	96	97	98	
	90th	105	105	106	107	109	110	110	105	105	106	107	109	110	110	105	105	106	107	109	110	110	
	95th + 12 mm Hg	119	108	109	110	111	112	112	119	108	109	110	111	112	112	119	108	109	110	111	112	112	
7	Height (in)	45.7	46.5	47.8	49.3	50.8	52.1	52.9	45.7	46.5	47.8	49.3	50.8	52.1	52.9	45.7	46.5	47.8	49.3	50.8	52.1	52.9	
	Height (cm)	116.1	118	121.4	125.1	128.9	132.4	134.5	116.1	118	121.4	125.1	128.9	132.4	134.5	116.1	118	121.4	125.1	128.9	132.4	134.5	
	50th	94	94	95	97	98	98	99	94	94	95	97	98	98	99	94	94	95	97	98	98	99	
	90th	106	107	108	109	110	111	111	106	107	108	109	110	111	111	106	107	108	109	110	111	111	
	95th + 12 mm Hg	122	110	111	112	114	115	116	122	110	111	112	114	115	116	122	110	111	112	114	115	116	

TABLE 4 Continued

Age (y)	BP Percentile	SBP (mm Hg)					DBP (mm Hg)								
		5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%
8	Height (in)	47.8	48.6	50	51.6	53.2	54.6	55.5	47.8	48.6	50	51.6	53.2	54.6	55.5
	Height (cm)	121.4	123.5	127	131	135.1	138.8	141	121.4	123.5	127	131	135.1	138.8	141
	50th	95	96	97	98	99	99	100	57	57	58	59	59	60	60
	90th	107	108	109	110	111	112	112	69	70	70	71	72	72	73
	95th	111	112	112	114	115	116	117	72	73	73	74	75	75	75
9	95th + 12 mm Hg	123	124	124	126	127	128	129	84	85	85	86	87	87	87
	Height (in)	49.6	50.5	52	53.7	55.4	56.9	57.9	49.6	50.5	52	53.7	55.4	56.9	57.9
	Height (cm)	126	128.3	132.1	136.3	140.7	144.7	147.1	126	128.3	132.1	136.3	140.7	144.7	147.1
	50th	96	97	98	99	100	101	101	57	58	59	60	61	62	62
	90th	107	108	109	110	112	113	114	70	71	72	73	74	74	74
10	95th + 12 mm Hg	112	112	113	115	116	118	119	74	74	75	76	76	77	77
	Height (in)	124	124	125	127	128	130	131	86	86	87	88	88	89	89
	Height (cm)	51.3	52.2	53.8	55.6	57.4	59.1	60.1	51.3	52.2	53.8	55.6	57.4	59.1	60.1
	50th	97	98	99	100	101	102	103	59	60	61	62	63	63	64
	90th	108	109	111	112	113	115	116	72	73	74	74	75	75	76
11	95th + 12 mm Hg	112	113	114	116	118	120	121	76	76	77	77	78	78	78
	Height (in)	124	125	126	128	130	132	133	88	88	89	89	90	90	90
	Height (cm)	134.7	137.3	141.5	146.4	151.3	155.8	158.6	134.7	137.3	141.5	146.4	151.3	155.8	158.6
	50th	99	99	101	102	103	104	106	61	61	62	63	63	63	63
	90th	110	111	112	114	116	117	118	74	74	75	75	75	76	76
12	95th + 12 mm Hg	114	114	116	118	120	123	124	77	78	78	78	78	78	78
	Height (in)	126	126	128	130	132	135	136	89	89	90	90	90	90	90
	Height (cm)	55.2	56.3	58.1	60.1	62.2	64	65.2	55.2	56.3	58.1	60.1	62.2	64	65.2
	50th	101	101	102	104	106	108	109	61	62	62	62	62	63	63
	90th	113	114	115	117	119	121	122	75	75	75	75	75	76	76
13	95th + 12 mm Hg	116	117	118	121	124	126	128	78	78	78	78	78	79	79
	Height (in)	128	129	130	133	136	138	140	90	90	90	90	90	91	91
	Height (cm)	57.9	59.1	61	63.1	65.2	67.1	68.3	57.9	59.1	61	63.1	65.2	67.1	68.3
	50th	103	104	105	108	110	111	112	61	60	61	62	63	64	65
	90th	115	116	118	121	124	126	128	74	74	74	75	76	77	77
14	95th + 12 mm Hg	119	120	122	125	128	130	131	78	78	78	78	80	81	81
	Height (in)	131	132	134	137	140	142	143	90	90	90	90	92	93	93
	Height (cm)	60.6	61.8	63.8	65.9	68.0	69.8	70.9	60.6	61.8	63.8	65.9	68.0	69.8	70.9
	50th	105	106	109	111	112	113	113	60	60	62	64	65	66	67
	90th	119	120	123	126	127	128	129	74	74	75	77	78	79	80
15	95th + 12 mm Hg	123	125	127	130	132	133	134	77	78	79	81	82	83	84
	Height (in)	135	137	139	142	144	145	146	89	90	91	93	94	95	96
	Height (cm)	55.2	56.3	58.1	60.1	62.2	64	65.2	55.2	56.3	58.1	60.1	62.2	64	65.2

TABLE 4 Continued

Age (y)	BP Percentile	SBP (mm Hg)										DBP (mm Hg)										
		Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height					
		5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%
15	Height (in)	62.6	63.8	65.7	67.8	69.8	71.5	72.5	62.6	63.8	65.7	67.8	69.8	71.5	72.5	62.6	63.8	65.7	67.8	69.8	71.5	72.5
	Height (cm)	159	162	166.9	172.2	177.2	181.6	184.2	159	162	166.9	172.2	177.2	181.6	184.2	159	162	166.9	172.2	177.2	181.6	184.2
	50th	108	110	112	113	114	114	114	61	62	64	65	66	67	68	61	62	64	65	66	67	68
	90th	123	124	126	128	129	130	130	75	76	78	79	80	81	81	75	76	78	79	80	81	81
	95th	127	129	131	132	134	135	135	78	79	81	83	84	85	85	78	79	81	83	84	85	85
16	95th + 12 mm Hg	139	141	143	144	146	147	147	90	91	93	95	96	97	97	90	91	93	95	96	97	97
	Height (in)	63.8	64.9	66.8	68.8	70.7	72.4	73.4	63.8	64.9	66.8	68.8	70.7	72.4	73.4	63.8	64.9	66.8	68.8	70.7	72.4	73.4
	Height (cm)	162.1	165	169.6	174.6	179.5	183.8	186.4	162.1	165	169.6	174.6	179.5	183.8	186.4	162.1	165	169.6	174.6	179.5	183.8	186.4
	50th	111	112	114	115	115	116	116	63	64	66	67	68	69	69	63	64	66	67	68	69	69
	90th	126	127	128	129	131	131	132	77	78	79	80	81	82	82	77	78	79	80	81	82	82
17	95th	130	131	133	134	135	136	137	80	81	83	84	85	86	86	80	81	83	84	85	86	86
	95th + 12 mm Hg	142	143	145	146	147	148	149	92	93	95	96	97	98	98	92	93	95	96	97	98	98
	Height (in)	64.5	65.5	67.3	69.2	71.1	72.8	73.8	64.5	65.5	67.3	69.2	71.1	72.8	73.8	64.5	65.5	67.3	69.2	71.1	72.8	73.8
	Height (cm)	163.8	166.5	170.9	175.8	180.7	184.9	187.5	163.8	166.5	170.9	175.8	180.7	184.9	187.5	163.8	166.5	170.9	175.8	180.7	184.9	187.5
	50th	114	115	116	117	117	118	118	65	66	67	68	69	70	70	65	66	67	68	69	70	70
18	90th	128	129	130	131	132	133	134	78	79	80	81	82	83	83	78	79	80	81	82	83	83
	95th	132	133	134	135	137	138	138	81	82	84	85	86	87	87	81	82	84	85	86	87	87
	95th + 12 mm Hg	144	145	146	147	149	150	150	93	94	96	97	98	99	99	93	94	96	97	98	99	99

Use percentile values to stage BP readings according to the scheme in Table 3 (elevated BP: ≥ 90 th percentile; stage 1 HTN: ≥ 95 th percentile; and stage 2 HTN: ≥ 95 th percentile + 12 mm Hg). The 50th, 90th, and 95th percentiles were derived by using quantile regression on the basis of normal-weight children (BMI <85th percentile).⁷⁷

TABLE 5 BP Levels for Girls by Age and Height Percentile

Age (y)	BP Percentile														
	SBP (mm Hg)					DBP (mm Hg)									
	Height Percentile on Measured Height														
	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	
1	Height (m)	29.7	30.2	30.9	31.8	32.7	33.4	33.9	29.7	30.2	30.9	31.8	32.7	33.4	33.9
	Height (cm)	75.4	76.6	78.6	80.8	83	84.9	86.1	75.4	76.6	78.6	80.8	83	84.9	86.1
	50th	84	85	86	86	87	88	88	41	42	42	43	44	45	46
	90th	98	99	99	100	101	102	102	54	55	56	56	57	58	58
	95th	101	102	102	103	104	105	105	59	59	60	60	61	62	62
2	95th + 12 mm Hg	113	114	114	115	116	117	117	71	71	72	72	73	74	74
	Height (m)	33.4	34	34.9	35.9	36.9	37.8	38.4	33.4	34	34.9	35.9	36.9	37.8	38.4
	Height (cm)	84.9	86.3	88.6	91.1	93.7	96	97.4	84.9	86.3	88.6	91.1	93.7	96	97.4
	50th	87	87	88	89	90	91	91	45	46	47	48	49	50	51
	90th	101	101	102	103	104	105	106	58	58	59	60	61	62	62
3	95th	104	105	106	106	107	108	109	62	63	63	64	65	66	66
	95th + 12 mm Hg	116	117	118	118	119	120	121	74	75	75	76	77	78	78
	Height (m)	35.8	36.4	37.3	38.4	39.6	40.6	41.2	35.8	36.4	37.3	38.4	39.6	40.6	41.2
	Height (cm)	91	92.4	94.9	97.6	100.5	103.1	104.6	91	92.4	94.9	97.6	100.5	103.1	104.6
	50th	88	89	89	90	91	92	93	48	48	49	50	51	53	53
4	90th	102	103	104	104	105	106	107	60	61	61	62	63	64	65
	95th	106	106	107	108	109	110	110	64	65	65	66	67	68	69
	95th + 12 mm Hg	118	118	119	120	121	122	122	76	77	77	78	79	80	81
	Height (m)	38.3	38.9	39.9	41.1	42.4	43.5	44.2	38.3	38.9	39.9	41.1	42.4	43.5	44.2
	Height (cm)	97.2	98.8	101.4	104.5	107.6	110.5	112.2	97.2	98.8	101.4	104.5	107.6	110.5	112.2
5	50th	89	90	91	92	93	94	94	50	51	51	53	54	55	55
	90th	103	104	105	106	107	108	108	62	63	64	65	66	67	67
	95th	107	108	109	109	110	111	112	66	67	68	69	70	70	71
	95th + 12 mm Hg	119	120	121	121	122	123	124	78	79	80	81	82	82	83
	Height (m)	40.8	41.5	42.6	43.9	45.2	46.5	47.3	40.8	41.5	42.6	43.9	45.2	46.5	47.3
6	Height (cm)	103.6	105.3	108.2	111.5	114.9	118.1	120	103.6	105.3	108.2	111.5	114.9	118.1	120
	50th	90	91	92	93	94	95	96	52	52	53	55	56	57	57
	90th	104	105	106	107	108	109	110	64	65	66	67	68	69	70
	95th	108	109	109	110	111	112	113	68	69	70	71	72	73	73
	95th + 12 mm Hg	120	121	121	122	123	124	125	80	81	82	83	84	85	85
7	Height (m)	43.3	44	45.2	46.6	48.1	49.4	50.3	43.3	44	45.2	46.6	48.1	49.4	50.3
	Height (cm)	110	111.8	114.9	118.4	122.1	125.6	127.7	110	111.8	114.9	118.4	122.1	125.6	127.7
	50th	92	92	93	94	96	97	97	54	54	55	56	57	58	59
	90th	105	106	107	108	109	110	111	67	67	68	69	70	71	71
	95th	109	109	110	111	112	113	114	70	71	72	72	73	74	74
95th + 12 mm Hg	121	121	122	123	124	125	126	82	83	84	84	85	86	86	
	Height (m)	45.6	46.4	47.7	49.2	50.7	52.1	53	45.6	46.4	47.7	49.2	50.7	52.1	53
	Height (cm)	115.9	117.8	121.1	124.9	128.8	132.5	134.7	115.9	117.8	121.1	124.9	128.8	132.5	134.7
	50th	92	93	94	95	97	98	99	55	55	56	57	58	59	60
	90th	106	106	107	109	110	111	112	68	68	69	70	71	72	72
95th + 12 mm Hg	109	110	111	112	113	114	115	72	72	73	73	74	74	75	
	121	122	123	124	125	126	127	84	84	85	85	86	86	87	

TABLE 5 Continued

Age (y)	BP Percentile	SBP (mm Hg)										DBP (mm Hg)											
		Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height					Height Percentile or Measured Height						
		5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%	
8	Height (in)	47.6	48.4	49.8	51.4	53	54.5	55.5	47.6	48.4	49.8	51.4	53	54.5	55.5	47.6	48.4	49.8	51.4	53	54.5	55.5	
	Height (cm)	121	123	126.5	130.6	134.7	138.5	140.9	121	123	126.5	130.6	134.7	138.5	140.9	121	123	126.5	130.6	134.7	138.5	140.9	
	50th	93	94	95	97	98	99	100	93	94	95	97	98	99	100	93	94	95	97	98	99	100	
	90th	107	107	108	110	111	112	113	113	107	107	108	110	111	112	113	107	107	108	110	111	112	113
	95th	110	111	112	113	115	116	117	117	110	111	112	113	115	116	117	110	111	112	113	115	116	117
9	95th + 12 mm Hg	122	123	124	125	127	128	129	122	123	124	125	127	128	129	122	123	124	125	127	128	129	
	Height (in)	49.3	50.2	51.7	53.4	55.1	56.7	57.7	49.3	50.2	51.7	53.4	55.1	56.7	57.7	49.3	50.2	51.7	53.4	55.1	56.7	57.7	
	Height (cm)	125.3	127.6	131.3	135.6	140.1	144.1	146.6	125.3	127.6	131.3	135.6	140.1	144.1	146.6	125.3	127.6	131.3	135.6	140.1	144.1	146.6	
	50th	95	95	97	98	99	100	101	95	95	97	98	99	100	101	95	95	97	98	99	100	101	
	90th	108	108	109	111	112	113	114	114	108	108	109	111	112	113	114	108	108	109	111	112	113	114
10	95th + 12 mm Hg	124	124	125	126	128	129	130	124	124	125	126	128	129	130	124	124	125	126	128	129	130	
	Height (in)	51.1	52	53.7	55.5	57.4	59.1	60.2	51.1	52	53.7	55.5	57.4	59.1	60.2	51.1	52	53.7	55.5	57.4	59.1	60.2	
	Height (cm)	129.7	132.2	136.3	141	145.8	150.2	152.8	129.7	132.2	136.3	141	145.8	150.2	152.8	129.7	132.2	136.3	141	145.8	150.2	152.8	
	50th	96	97	98	99	101	102	103	96	97	98	99	101	102	103	96	97	98	99	101	102	103	
	90th	109	110	111	112	113	115	116	109	110	111	112	113	115	116	109	110	111	112	113	115	116	
11	95th + 12 mm Hg	125	126	126	128	129	131	132	125	126	126	128	129	131	132	125	126	126	128	129	131	132	
	Height (in)	53.4	54.5	56.2	58.2	60.2	61.9	63	53.4	54.5	56.2	58.2	60.2	61.9	63	53.4	54.5	56.2	58.2	60.2	61.9	63	
	Height (cm)	135.6	138.3	142.8	147.8	152.8	157.3	160	135.6	138.3	142.8	147.8	152.8	157.3	160	135.6	138.3	142.8	147.8	152.8	157.3	160	
	50th	98	99	101	102	104	105	106	98	99	101	102	104	105	106	98	99	101	102	104	105	106	
	90th	111	112	113	114	116	118	120	111	112	113	114	116	118	120	111	112	113	114	116	118	120	
12	95th + 12 mm Hg	127	128	129	130	132	135	136	127	128	129	130	132	135	136	127	128	129	130	132	135	136	
	Height (in)	56.2	57.3	59	60.9	62.8	64.5	65.5	56.2	57.3	59	60.9	62.8	64.5	65.5	56.2	57.3	59	60.9	62.8	64.5	65.5	
	Height (cm)	142.8	145.5	149.9	154.8	159.6	163.8	166.4	142.8	145.5	149.9	154.8	159.6	163.8	166.4	142.8	145.5	149.9	154.8	159.6	163.8	166.4	
	50th	102	102	104	105	107	108	108	102	102	104	105	107	108	108	102	102	104	105	107	108	108	
	90th	114	115	116	118	120	122	122	114	115	116	118	120	122	122	114	115	116	118	120	122	122	
13	95th + 12 mm Hg	130	131	132	134	136	137	138	130	131	132	134	136	137	138	130	131	132	134	136	137	138	
	Height (in)	58.3	59.3	60.9	62.7	64.5	66.1	67	58.3	59.3	60.9	62.7	64.5	66.1	67	58.3	59.3	60.9	62.7	64.5	66.1	67	
	Height (cm)	148.1	150.6	154.7	159.2	163.7	167.8	170.2	148.1	150.6	154.7	159.2	163.7	167.8	170.2	148.1	150.6	154.7	159.2	163.7	167.8	170.2	
	50th	104	105	106	107	108	108	109	104	105	106	107	108	108	109	104	105	106	107	108	108	109	
	90th	116	117	119	121	122	123	123	116	117	119	121	122	123	123	116	117	119	121	122	123	123	
14	95th + 12 mm Hg	133	134	135	136	138	138	139	133	134	135	136	138	138	139	133	134	135	136	138	138	139	
	Height (in)	59.3	60.2	61.8	63.5	65.2	66.8	67.7	59.3	60.2	61.8	63.5	65.2	66.8	67.7	59.3	60.2	61.8	63.5	65.2	66.8	67.7	
	Height (cm)	150.6	153	156.9	161.3	165.7	169.7	172.1	150.6	153	156.9	161.3	165.7	169.7	172.1	150.6	153	156.9	161.3	165.7	169.7	172.1	
	50th	105	106	107	108	109	109	109	105	106	107	108	109	109	109	105	106	107	108	109	109	109	
	90th	118	118	120	122	123	123	123	118	118	120	122	123	123	123	118	118	120	122	123	123	123	

TABLE 5 Continued

Age (y)	BP Percentile	SBP (mm Hg)					DBP (mm Hg)								
		Height Percentile or Measured Height					Height Percentile or Measured Height								
		5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%
15	Height (in)	59.7	60.6	62.2	63.9	65.6	67.2	68.1	59.7	60.6	62.2	63.9	65.6	67.2	68.1
	Height (cm)	151.7	154	157.9	162.3	166.7	170.6	173	151.7	154	157.9	162.3	166.7	170.6	173
	50th	105	106	107	108	109	109	109	64	64	64	65	66	67	67
	90th	118	119	121	122	123	123	124	76	76	76	77	77	78	78
	95th	124	124	125	126	127	127	128	80	80	80	81	82	82	82
16	95th + 12 mm Hg	136	136	137	138	139	139	140	92	92	92	93	94	94	94
	Height (in)	59.9	60.8	62.4	64.1	65.8	67.3	68.3	59.9	60.8	62.4	64.1	65.8	67.3	68.3
	Height (cm)	152.1	154.5	158.4	162.8	167.1	171.1	173.4	152.1	154.5	158.4	162.8	167.1	171.1	173.4
	50th	106	107	108	109	109	110	110	64	64	65	66	66	67	67
	90th	119	120	122	123	124	124	124	76	76	76	77	78	78	78
17	95th	124	125	125	127	127	128	128	80	80	80	81	82	82	82
	95th + 12 mm Hg	136	137	137	139	139	140	140	92	92	92	93	94	94	94
	Height (in)	60.0	60.9	62.5	64.2	65.9	67.4	68.4	60.0	60.9	62.5	64.2	65.9	67.4	68.4
	Height (cm)	152.4	154.7	158.7	163.0	167.4	171.3	173.7	152.4	154.7	158.7	163.0	167.4	171.3	173.7
	50th	107	108	109	110	110	110	111	64	64	65	66	66	66	67
90th	120	121	123	124	124	125	125	125	76	76	77	77	78	78	78
	95th	125	125	126	127	128	128	128	80	80	80	81	82	82	82
	95th + 12 mm Hg	137	137	138	139	140	140	140	92	92	92	93	94	94	94

Use percentile values to stage BP readings according to the scheme in Table 3 (elevated BP: ≥ 90 th percentile; stage 1 HTN: ≥ 95 th percentile; and stage 2 HTN: ≥ 95 th percentile + 12 mm Hg). The 50th, 90th, and 95th percentiles were derived by using quantile regression on the basis of normal-weight children (BMI <85th percentile).⁷⁷

The initial BP measurement may be oscillometric (on a calibrated machine that has been validated for use in the pediatric population) or auscultatory (by using a mercury or aneroid sphygmomanometer^{86,87}). (Validation status for oscillometric BP devices, including whether they are validated in the pediatric age group, can be checked at www.dableducational.org.) BP should be measured in the right arm by using standard measurement practices unless the child has atypical aortic arch anatomy, such as right aortic arch and aortic coarctation or left aortic arch with aberrant right subclavian artery (see Table 7). Other important aspects of proper BP measurement are illustrated in an AAP video available at <http://youtu.be/JLzkNBpqi0>. Care should be taken that providers follow an accurate and consistent measurement technique.^{88,89}

An appropriately sized cuff should be used for accurate BP measurement.⁸³ Researchers in 3 studies in the United Kingdom and 1 in Brazil documented the lack of availability of an appropriately sized cuff in both the inpatient and outpatient settings.^{91–94} Pediatric offices should have access to a wide range of cuff sizes, including a thigh cuff for use in children and adolescents with severe obesity. For children in whom the appropriate cuff size is difficult to determine, the midarm circumference (measured as the midpoint between the acromion of the scapula and olecranon of the elbow, with the shoulder in a neutral position and the elbow flexed to 90°^{86,95,96}) should be obtained for an accurate determination of the correct cuff size (see Fig 2 and Table 7).⁹⁵

If the initial BP is elevated (≥ 90 th percentile), providers should perform 2 additional oscillometric or auscultatory BP measurements at the same visit and average them. If using auscultation, this averaged measurement is used to determine the child's BP category (ie, normal,

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