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### Blood pressure levels for boys by age and height percentile

BP (percentile)	Systolic BP (mmHg)							Diastolic BP (mmHg)						
	Height percentile or measured height													
	5%	10%	25%	50%	75%	90%	95%	5%	10%	25%	50%	75%	90%	95%
<b>1 year</b>														
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
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
50 <sup>th</sup>	85	85	86	86	87	88	88	40	40	40	41	41	42	42
90 <sup>th</sup>	98	99	99	100	100	101	101	52	52	53	53	54	54	54
95 <sup>th</sup>	102	102	103	103	104	105	105	54	54	55	55	56	57	57
95 <sup>th</sup> + 12 mmHg	114	114	115	115	116	117	117	66	66	67	67	68	69	69
<b>2 years</b>														
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
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
50 <sup>th</sup>	87	87	88	89	89	90	91	43	43	44	44	45	46	46
90 <sup>th</sup>	100	100	101	102	103	103	104	55	55	56	56	57	58	58
95 <sup>th</sup>	104	105	105	106	107	107	108	57	58	58	59	60	61	61
95 <sup>th</sup> + 12 mmHg	116	117	117	118	119	119	120	69	70	70	71	72	73	73
<b>3 years</b>														
Height (in)	36.4	37.0	37.9	39.0	40.1	41.1	41.7	36.4	37.0	37.9	39.0	40.1	41.1	41.7
Height (cm)	92.5	93.9	96.3	99.0	101.8	104.3	105.8	92.5	93.9	96.3	99.0	101.8	104.3	105.8
50 <sup>th</sup>	88	89	89	90	91	92	92	45	46	46	47	48	49	49
90 <sup>th</sup>	101	102	102	103	104	105	105	58	58	59	59	60	61	61
95 <sup>th</sup>	106	106	107	107	108	109	109	60	61	61	62	63	64	64
95 <sup>th</sup> + 12 mmHg	118	118	119	119	120	121	121	72	73	73	74	75	76	76
<b>4 years</b>														
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

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
50 <sup>th</sup>	90	90	91	92	93	94	94	48	49	49	50	51	52	52
90 <sup>th</sup>	102	103	104	105	105	106	107	60	61	62	62	63	64	64
95 <sup>th</sup>	107	107	108	108	109	110	110	63	64	65	66	67	67	68
95 <sup>th</sup> + 12 mmHg	119	119	120	120	121	122	122	75	76	77	78	79	79	80
<b>5 years</b>														
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
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
50 <sup>th</sup>	91	92	93	94	95	96	96	51	51	52	53	54	55	55
90 <sup>th</sup>	103	104	105	106	107	108	108	63	64	65	65	66	67	67
95 <sup>th</sup>	107	108	109	109	110	111	112	66	67	68	69	70	70	71
95 <sup>th</sup> + 12 mmHg	119	120	121	121	122	123	124	78	79	80	81	82	82	83
<b>6 years</b>														
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
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
50 <sup>th</sup>	93	93	94	95	96	97	98	54	54	55	56	57	57	58
90 <sup>th</sup>	105	105	106	107	109	110	110	66	66	67	68	68	69	69
95 <sup>th</sup>	108	109	110	111	112	113	114	69	70	70	71	72	72	73
95 <sup>th</sup> + 12 mmHg	120	121	122	123	124	125	126	81	82	82	83	84	84	85
<b>7 years</b>														
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
Height (cm)	116.1	118.0	121.4	125.1	128.9	132.4	134.5	116.1	118.0	121.4	125.1	128.9	132.4	134.5
50 <sup>th</sup>	94	94	95	97	98	98	99	56	56	57	58	58	59	59
90 <sup>th</sup>	106	107	108	109	110	111	111	68	68	69	70	70	71	71
95 <sup>th</sup>	110	110	111	112	114	115	116	71	71	72	73	73	74	74
95 <sup>th</sup> + 12 mmHg	122	122	123	124	126	127	128	83	83	84	85	85	86	86
<b>8 years</b>														
Height (in)	47.8	48.6	50.0	51.6	53.2	54.6	55.5	47.8	48.6	50.0	51.6	53.2	54.6	55.5
Height (cm)	121.4	123.5	127.0	131.0	135.1	138.8	141.0	121.4	123.5	127.0	131.0	135.1	138.8	141.0
50 <sup>th</sup>	95	96	97	98	99	99	100	57	57	58	59	59	60	60
90 <sup>th</sup>	107	108	109	110	111	112	112	69	70	70	71	72	72	73
95 <sup>th</sup>	111	112	112	114	115	116	117	72	73	73	74	75	75	75

95 <sup>th</sup> + 12 mmHg	123	124	124	126	127	128	129	84	85	85	86	87	87	87
<b>9 years</b>														
Height (in)	49.6	50.5	52.0	53.7	55.4	56.9	57.9	49.6	50.5	52.0	53.7	55.4	56.9	57.9
Height (cm)	126.0	128.3	132.1	136.3	140.7	144.7	147.1	126.0	128.3	132.1	136.3	140.7	144.7	147.1
50 <sup>th</sup>	96	97	98	99	100	101	101	57	58	59	60	61	62	62
90 <sup>th</sup>	107	108	109	110	112	113	114	70	71	72	73	74	74	74
95 <sup>th</sup>	112	112	113	115	116	118	119	74	74	75	76	76	77	77
95 <sup>th</sup> + 12 mmHg	124	124	125	127	128	130	131	86	86	87	88	88	89	89
<b>10 years</b>														
Height (in)	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
Height (cm)	130.2	132.7	136.7	141.3	145.9	150.1	152.7	130.2	132.7	136.7	141.3	145.9	150.1	152.7
50 <sup>th</sup>	97	98	99	100	101	102	103	59	60	61	62	63	63	64
90 <sup>th</sup>	108	109	111	112	113	115	116	72	73	74	74	75	75	76
95 <sup>th</sup>	112	113	114	116	118	120	121	76	76	77	77	78	78	78
95 <sup>th</sup> + 12 mmHg	124	125	126	128	130	132	133	88	88	89	89	90	90	90
<b>11 years</b>														
Height (in)	53.0	54.0	55.7	57.6	59.6	61.3	62.4	53.0	54.0	55.7	57.6	59.6	61.3	62.4
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
50 <sup>th</sup>	99	99	101	102	103	104	106	61	61	62	63	63	63	63
90 <sup>th</sup>	110	111	112	114	116	117	118	74	74	75	75	75	76	76
95 <sup>th</sup>	114	114	116	118	120	123	124	77	78	78	78	78	78	78
95 <sup>th</sup> + 12 mmHg	126	126	128	130	132	135	136	89	90	90	90	90	90	90
<b>12 years</b>														
Height (in)	55.2	56.3	58.1	60.1	62.2	64.0	65.2	55.2	56.3	58.1	60.1	62.2	64.0	65.2
Height (cm)	140.3	143.0	147.5	152.7	157.9	162.6	165.5	140.3	143.0	147.5	152.7	157.9	162.6	165.5
50 <sup>th</sup>	101	101	102	104	106	108	109	61	62	62	62	62	63	63
90 <sup>th</sup>	113	114	115	117	119	121	122	75	75	75	75	75	76	76
95 <sup>th</sup>	116	117	118	121	124	126	128	78	78	78	78	78	79	79
95 <sup>th</sup> + 12 mmHg	128	129	130	133	136	138	140	90	90	90	90	90	91	91
<b>13 years</b>														
Height (in)	57.9	59.1	61.0	63.1	65.2	67.1	68.3	57.9	59.1	61.0	63.1	65.2	67.1	68.3
Height (cm)	147.0	150.0	154.9	160.3	165.7	170.5	173.4	147.0	150.0	154.9	160.3	165.7	170.5	173.4

50 <sup>th</sup>	103	104	105	108	110	111	112	61	60	61	62	63	64	65
90 <sup>th</sup>	115	116	118	121	124	126	126	74	74	74	75	76	77	77
95 <sup>th</sup>	119	120	122	125	128	130	131	78	78	78	78	80	81	81
95 <sup>th</sup> + 12 mmHg	131	132	134	137	140	142	143	90	90	90	90	92	93	93
<b>14 years</b>														
Height (in)	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
Height (cm)	153.8	156.9	162.0	167.5	172.7	177.4	180.1	153.8	156.9	162.0	167.5	172.7	177.4	180.1
50 <sup>th</sup>	105	106	109	111	112	113	113	60	60	62	64	65	66	67
90 <sup>th</sup>	119	120	123	126	127	128	129	74	74	75	77	78	79	80
95 <sup>th</sup>	123	125	127	130	132	133	134	77	78	79	81	82	83	84
95 <sup>th</sup> + 12 mmHg	135	137	139	142	144	145	146	89	90	91	93	94	95	96
<b>15 years</b>														
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
Height (cm)	159.0	162.0	166.9	172.2	177.2	181.6	184.2	159.0	162.0	166.9	172.2	177.2	181.6	184.2
50 <sup>th</sup>	108	110	112	113	114	114	114	61	62	64	65	66	67	68
90 <sup>th</sup>	123	124	126	128	129	130	130	75	76	78	79	80	81	81
95 <sup>th</sup>	127	129	131	132	134	135	135	78	79	81	83	84	85	85
95 <sup>th</sup> + 12 mmHg	139	141	143	144	146	147	147	90	91	93	95	96	97	97
<b>16 years</b>														
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
Height (cm)	162.1	165.0	169.6	174.6	179.5	183.8	186.4	162.1	165.0	169.6	174.6	179.5	183.8	186.4
50 <sup>th</sup>	111	112	114	115	115	116	116	63	64	66	67	68	69	69
90 <sup>th</sup>	126	127	128	129	131	131	132	77	78	79	80	81	82	82
95 <sup>th</sup>	130	131	133	134	135	136	137	80	81	83	84	85	86	86
95 <sup>th</sup> + 12 mmHg	142	143	145	146	147	148	149	92	93	95	96	97	98	98
<b>17 years</b>														
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
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
50 <sup>th</sup>	114	115	116	117	117	118	118	65	66	67	68	69	70	70
90 <sup>th</sup>	128	129	130	131	132	133	134	78	79	80	81	82	82	83
95 <sup>th</sup>	132	133	134	135	137	138	138	81	82	84	85	86	86	87
95 <sup>th</sup> + 12 mmHg	144	145	146	147	149	150	150	93	94	96	97	98	98	99

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The 50<sup>th</sup>, 90<sup>th</sup>, and 95<sup>th</sup> percentiles were derived by using quantile regression on the basis of normal-weight children (BMI <85<sup>th</sup> percentile). BP stages are defined as elevated BP  $\geq 90^{\text{th}}$  percentile but <95<sup>th</sup> percentile; stage 1 HTN:  $\geq 95^{\text{th}}$  percentile or 130/80 to 139/89 mmHg; and stage 2 HTN:  $\geq 95^{\text{th}}$  percentile + 12 mmHg or >140/90 mmHg.

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BP: blood pressure; BMI: body mass index; HTN: hypertension.

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