**BLOOD PRESSURE LEVELS FOR BOYS BY AGE AND HEIGHT PERCENTILE**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | SYSTOLIC BLOOD PRESSURE (mm Hg) | | | | | | | DIASTOLIC BLOOD PRESSURE (mm Hg) | | | | | | |
| **Age** | **BP**  **percentil** | **PERCENTILE OF HEIGHT** | | | | | | | **PERCENTILE OF HEIGHT** | | | | | | |
| **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| **1** | 50th  90th  95th  99th | 80  94  98  105 | 81  95  99  106 | 83  97  101  108 | 85  99  103  110 | 87  100  104  112 | 88  102  106  113 | 89  103  106  114 | 34  49  54  61 | 35  50  54  62 | 36  51  55  63 | 37  52  56  64 | 38  53  57  65 | 39  53  58  66 | 39  54  58  66 |
| **2** | 50th  90th  95th  99th | 84  97  101  109 | 85  99  102  110 | 87  100  104  111 | 88  102  106  113 | 90  104  108  115 | 92  105  109  117 | 92  106  110  117 | 39  54  59  66 | 40  55  59  67 | 41  56  60  68 | 42  57  61  69 | 43  58  62  70 | 44  58  63  71 | 44  59  63  71 |
| **3** | 50th  90th  95th  99th | 86  100  104  111 | 87  101  105  112 | 89  103  107  114 | 91  105  109  116 | 93  107  110  118 | 94  108  112  119 | 95  109  113  120 | 44  59  63  71 | 44  59  63  71 | 45  60  64  72 | 46  61  65  73 | 47  62  66  74 | 48  63  67  75 | 48  63  67  75 |
| **4** | 50th  90th  95th  99th | 88  102  106  113 | 89  103  107  114 | 91  105  109  116 | 93  107  111  118 | 95  109  112  120 | 96  110  114  121 | 97  111  115  122 | 47  62  66  74 | 48  63  67  75 | 49  64  68  76 | 50  65  69  77 | 51  66  70  78 | 51  66  71  78 | 52  67  71  79 |
| **5** | 50th  90th  95th  99th | 90  104  108  115 | 91  105  109  116 | 93  106  110  118 | 95  108  112  120 | 96  110  114  121 | 98  11  115  123 | 98  112  116  123 | 50  65  69  77 | 51  66  70  78 | 52  67  71  79 | 53  68  72  80 | 54  69  73  81 | 55  69  74  81 | 55  70  74  82 |
| **6** | 50th  90th  95th  99th | 91  105  109  116 | 92  106  110  117 | 94  108  112  119 | 96  110  114  121 | 98  111  115  123 | 99  113  117  124 | 100  113  117  125 | 53  68  72  80 | 53  68  72  80 | 54  69  73  81 | 55  70  74  82 | 56  71  75  83 | 57  72  76  84 | 57  72  76  84 |
| **7** | 50th  90th  95th  99th | 92  106  110  117 | 94  107  111  118 | 95  109  115  120 | 97  111  115  122 | 99  113  117  124 | 100  114  118  125 | 101  115  119  126 | 55  70  74  82 | 55  70  74  82 | 56  71  75  83 | 57  72  76  84 | 58  73  77  85 | 59  74  78  86 | 59  74  78  86 |
| **8** | 50th  90th  95th  99th | 94  107  111  119 | 95  109  112  120 | 97  110  114  122 | 99  112  116  123 | 100  114  118  125 | 102  115  119  127 | 102  116  120  127 | 56  71  75  83 | 57  72  76  84 | 58  72  77  85 | 59  73  78  86 | 60  74  79  87 | 60  75  79  87 | 61  76  80  88 |
| **9** | 50th  90th  95th  99th | 95  109  113  120 | 96  119  114  121 | 98  112  116  123 | 100  114  118  125 | 102  115  119  127 | 103  117  121  128 | 104  118  121  129 | 57  72  76  84 | 58  73  77  85 | 59  74  78  86 | 60  75  79  87 | 61  76  80  88 | 61  76  81  88 | 62  77  81  89 |
| **10** | 50th  90th  95th  99th | 97  111  115  122 | 98  112  116  123 | 100  114  117  125 | 102  115  119  127 | 103  117  121  128 | 105  119  122  130 | 106  119  123  130 | 58  73  77  85 | 59  73  78  86 | 60  74  79  86 | 61  75  80  88 | 61  76  81  88 | 62  77  81  89 | 63  78  82  90 |
| **11** | 50th  90th  95th  99th | 99  113  117  124 | 100  114  118  125 | 102  115  119  127 | 104  117  121  129 | 105  119  123  130 | 107  120  124  132 | 107  121  125  132 | 59  74  78  86 | 59  74  78  86 | 60  75  79  87 | 61  76  80  88 | 62  77  81  89 | 63  78  82  90 | 63  78  82  90 |
| **12** | 50th  90th  95th  99th | 101  115  119  126 | 102  116  120  127 | 104  118  122  129 | 106  120  123  131 | 108  121  125  133 | 109  123  127  134 | 110  123  127  135 | 59  74  78  86 | 60  75  79  87 | 61  75  80  88 | 62  76  81  89 | 63  77  82  90 | 63  78  82  90 | 64  79  83  91 |
| **13** | 50th  90th  95th  99th | 104  117  121  128 | 105  118  122  130 | 106  120  124  131 | 108  122  126  133 | 110  124  128  135 | 111  125  129  136 | 112  126  130  137 | 60  75  79  98 | 60  75  79  98 | 61  76  80  88 | 62  77  81  89 | 63  78  82  90 | 64  79  83  91 | 64  79  83  91 |
| **14** | 50th  90th  95th  99th | 106  120  124  131 | 107  121  125  132 | 109  123  127  134 | 111  125  128  136 | 113  126  130  138 | 114  128  132  139 | 115  128  132  140 | 60  75  80  87 | 61  76  80  88 | 62  77  81  89 | 63  78  82  90 | 64  79  83  91 | 65  79  84  92 | 65  80  84  92 |
| **15** | 50th  90th  95th  99th | 109  122  126  134 | 110  124  127  135 | 112  125  129  136 | 113  127  131  138 | 115  129  133  140 | 117  130  134  142 | 117  131  135  142 | 61  76  81  88 | 62  77  81  89 | 63  78  82  90 | 64  79  83  91 | 65  80  84  92 | 66  80  85  93 | 66  81  85  93 |
| **16** | 50th  90th  95th  99th | 111  125  129  136 | 112  126  130  137 | 114  128  132  139 | 116  130  134  141 | 118  131  135  143 | 119  133  137  144 | 120  134  137  145 | 63  78  82  90 | 63  78  83  90 | 64  79  83  91 | 65  80  84  92 | 66  80  85  93 | 67  82  86  94 | 67  82  87  94 |
| ***17*** | 50th  90th  95th  99th | 114  127  131  139 | 115  128  132  140 | 116  130  134  141 | 118  132  136  143 | 120  134  138  145 | 121  135  139  146 | 122  136  140  147 | 65  80  84  92 | 66  80  85  93 | 66  81  86  93 | 67  82  87  94 | 68  83  87  95 | 69  84  88  96 | 70  84  89  97 |

**BLOOD PRESSURE LEVELS FOR GIRLS BY AGE AND HEIGHT PERCENTILE**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | SYSTOLIC BLOOD PRESSURE (mm Hg) | | | | | | | DIASTOLIC BLOOD PRESSURE (mm Hg) | | | | | | |
| **Age** | **BP**  **percentil** | **PERCENTILE OF HEIGHT** | | | | | | | **PERCENTILE OF HEIGHT** | | | | | | |
| **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** | **5th** | **10th** | **25th** | **50th** | **75th** | **90th** | **95th** |
| **1** | 50th  90th  95th  99th | 83  97  100  108 | 84  97  101  108 | 85  98  102  109 | 86  100  104  111 | 88  101  105  112 | 89  102  106  113 | 90  103  107  114 | 38  52  56  64 | 39  53  57  64 | 39  53  57  65 | 40  54  58  65 | 41  55  59  66 | 41  55  59  67 | 42  56  60  67 |
| **2** | 50th  90th  95th  99th | 85  98  102  109 | 85  99  103  110 | 87  100  104  111 | 88  101  105  112 | 89  103  107  114 | 91  104  108  115 | 91  105  109  116 | 43  57  61  69 | 44  58  62  69 | 44  58  62  70 | 45  59  63  70 | 46  60  64  71 | 46  61  65  72 | 47  61  65  72 |
| **3** | 50th  90th  95th  99th | 86  100  104  111 | 87  100  104  111 | 88  102  105  113 | 89  103  107  114 | 91  104  108  115 | 92  106  109  116 | 93  106  110  117 | 47  61  65  73 | 48  62  66  73 | 48  62  66  74 | 49  6  67  74 | 50  64  68  75 | 50  64  68  76 | 51  65  69  76 |
| **4** | 50th  90th  95th  99th | 88  101  105  112 | 88  102  106  113 | 90  103  107  114 | 91  104  108  115 | 92  106  110  117 | 94  107  111  118 | 94  108  112  119 | 50  64  68  76 | 50  64  68  76 | 51  65  69  76 | 52  66  70  77 | 52  67  71  78 | 53  67  71  79 | 54  68  72  79 |
| **5** | 50th  90th  95th  99th | 89  103  107  114 | 90  103  107  114 | 91  105  108  116 | 93  106  110  117 | 94  107  111  118 | 95  109  112  120 | 96  109  113  120 | 52  66  70  78 | 53  67  71  78 | 53  67  71  79 | 54  68  72  79 | 55  69  73  80 | 55  69  73  81 | 56  70  74  81 |
| **6** | 50th  90th  95th  99th | 91  104  108  115 | 92  105  109  116 | 93  106  110  117 | 94  108  111  119 | 96  109  113  120 | 97  110  114  121 | 98  111  115  122 | 54  68  72  80 | 54  68  72  80 | 55  69  73  80 | 56  70  74  81 | 56  70  74  82 | 57  71  75  83 | 58  72  76  83 |
| **7** | 50th  90th  95th  99th | 93  106  110  117 | 93  107  111  118 | 95  108  112  119 | 96  109  113  120 | 97  111  115  122 | 99  112  116  123 | 99  113  116  124 | 55  69  73  81 | 56  70  74  81 | 56  70  74  82 | 57  71  75  82 | 58  72  76  83 | 58  72  76  84 | 59  73  77  84 |
| **8** | 50th  90th  95th  99th | 95  108  112  119 | 95  109  112  120 | 96  110  114  121 | 98  111  115  122 | 99  113  116  123 | 100  114  118  125 | 101  114  118  125 | 57  71  75  82 | 57  71  75  82 | 57  71  75  83 | 58  72  76  83 | 59  73  77  84 | 60  74  78  85 | 60  74  78  85 |
| **9** | 50th  90th  95th  99th | 96  110  114  121 | 97  110  114  121 | 98  112  125  123 | 100  113  117  124 | 101  114  118  125 | 102  116  119  127 | 103  116  120  127 | 58  72  76  83 | 58  72  76  83 | 58  72  76  84 | 59  73  77  84 | 60  74  78  85 | 61  75  79  86 | 61  75  79  87 |
| **10** | 50th  90th  95th  99th | 98  112  116  123 | 99  112  116  123 | 100  114  117  125 | 102  115  119  126 | 103  116  120  127 | 104  118  121  129 | 105  118  122  129 | 59  73  77  84 | 59  73  77  84 | 59  73  77  85 | 60  74  78  86 | 61  75  79  86 | 62  76  80  87 | 62  76  80  88 |
| **11** | 50th  90th  95th  99th | 100  114  118  125 | 101  114  118  125 | 102  116  119  126 | 103  117  121  128 | 105  118  122  129 | 106  119  123  130 | 107  120  124  131 | 60  74  78  85 | 60  74  78  85 | 60  74  78  86 | 61  75  79  87 | 62  76  80  87 | 63  77  81  88 | 63  77  81  89 |
| **12** | 50th  90th  95th  99th | 102  116  119  127 | 103  116  120  127 | 104  117  121  128 | 105  119  123  130 | 107  120  124  131 | 108  121  125  132 | 109  122  126  133 | 61  75  79  86 | 61  75  79  86 | 61  75  79  87 | 62  76  80  88 | 63  77  81  88 | 64  78  82  89 | 64  78  82  90 |
| **13** | 50th  90th  95th  99th | 104  117  121  128 | 105  118  122  129 | 106  119  123  130 | 107  121  124  132 | 109  122  126  133 | 110  123  127  134 | 110  124  128  135 | 62  76  80  87 | 62  76  80  87 | 62  76  80  88 | 63  77  81  89 | 64  78  82  89 | 65  79  83  90 | 65  79  83  91 |
| **14** | 50th  90th  95th  99th | 106  119  123  130 | 106  120  123  131 | 107  121  125  132 | 109  122  126  133 | 110  124  127  135 | 11  125  129  136 | 112  125  129  136 | 63  77  81  88 | 63  77  81  88 | 63  77  81  89 | 64  78  82  90 | 65  79  83  90 | 66  80  84  91 | 66  80  84  92 |
| **15** | 50th  90th  95th  99th | 107  120  124  131 | 108  121  125  132 | 109  122  126  133 | 110  123  127  134 | 111  125  129  136 | 113  126  130  137 | 113  127  131  138 | 64  78  82  89 | 64  78  82  89 | 64  78  82  90 | 65  79  83  91 | 66  80  84  91 | 67  81  85  92 | 67  81  85  93 |
| **16** | 50th  90th  95th  99th | 108  121  125  132 | 108  122  126  133 | 110  123  127  134 | 111  124  128  135 | 112  126  130  137 | 114  127  131  138 | 114  128  132  139 | 64  78  82  90 | 64  78  82  90 | 65  79  83  90 | 66  80  84  91 | 66  81  85  92 | 67  81  85  93 | 68  82  86  93 |
| ***17*** | 50th  90th  95th  99th | 108  122  125  133 | 109  122  126  133 | 110  123  127  134 | 111  125  129  136 | 113  126  130  137 | 114  127  131  138 | 115  128  132  139 | 64  78  82  90 | 65  79  83  90 | 65  79  83  91 | 66  80  84  91 | 67  81  85  92 | 67  81  85  93 | 68  82  86  93 |

**NORMAL BLOOD PRESSURES IN NEONATE AND INFANT**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **AGE** | **SYSTOLIC BP (mm Hg)** | | **DIASTOLIC BP (mm Hg)** | |
| **Female** | **Male** | **Female** | **Male** |
| Neonate (1st day)  Neonate (4th day) | 60 to 70  67 to 83 | 60 to 74  68 to 84 | 31 to 45  37 to 53 | 30 to 44  35 to 53 |
| Infant (1 month)  Infant (3 months)  Infant (6 months)  Infant (1 year) | 73 to 91  78 to 100  82 to 102  68 to 104 | 74 to 94  81 to 103  87 to 105  67 to 103 | 36 to 56  44 to 64  46 to 66  22 to 60 | 37 to 55  45 to 65  48 to 68  20 to 58 |

**Normal blood pressure in 1-17 year old children**

**Systolic and diastolic blood pressure** < 90th percentile (according to age, gender & height)

**Systolic blood pressure (SBP)** = 90 + 2n (mm Hg)

**Diastolic blood pressure (DBP)** = 60 + 2n (mm Hg)

\* n = age in years

**Definition of hypotension by systolic blood pressure and age**

Term neonates 0-28 days SBP < 60 mm Hg

Infants 1-12 months SBP < 70 mm Hg

Children 1-10 years SBP < 70 + 2n mm Hg

Children > 10 years SBP < 90 mm Hg

**Definition of hypertension**

**Normal high blood pressure**

90th percentile **< *SBP or DBP* ≤** 95th percentile (according to age, gender and height)

**Arterial hypertension**

***SBP or DBP* >** 95th percentile (according to age, gender and height)

**Significant arterial hypertension**

95th percentile **< *SBP or DBP* <** 99th percentile (according to age, gender and height)

**Severe arterial hypertension**

***SBP or DBP* ≥** 99th percentile (according to age, gender and height)