



## Global Lungs White Males Lower Limit of Normality

| FVC<br>cm | Units: L |     | Male | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|----------|-----|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           | Ins      | Age | 5    | 10     | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 122       | 48       |     | 1.14 | 1.35   | 1.58 | 1.80 | 1.84 | 1.81 | 1.76 | 1.71 | 1.67 | 1.62 | 1.56 | 1.51 | 1.44 | 1.36 | 1.28 | 1.21 |
| 130       | 51       |     | 1.33 | 1.58   | 1.84 | 2.11 | 2.15 | 2.10 | 2.05 | 2.00 | 1.95 | 1.89 | 1.82 | 1.76 | 1.67 | 1.58 | 1.50 | 1.41 |
| 137       | 54       |     | 1.51 | 1.79   | 2.09 | 2.40 | 2.44 | 2.39 | 2.33 | 2.27 | 2.21 | 2.15 | 2.08 | 1.99 | 1.90 | 1.80 | 1.70 | 1.61 |
| 145       | 57       |     | 1.74 | 2.06   | 2.40 | 2.75 | 2.81 | 2.75 | 2.68 | 2.61 | 2.54 | 2.47 | 2.38 | 2.29 | 2.18 | 2.07 | 1.95 | 1.84 |
| 152       | 60       |     | 1.95 | 2.31   | 2.69 | 3.08 | 3.15 | 3.09 | 3.00 | 2.93 | 2.85 | 2.76 | 2.67 | 2.57 | 2.45 | 2.32 | 2.19 | 2.07 |
| 160       | 63       |     | 2.21 | 2.62   | 3.05 | 3.50 | 3.57 | 3.49 | 3.40 | 3.32 | 3.23 | 3.13 | 3.03 | 2.91 | 2.77 | 2.63 | 2.48 | 2.35 |
| 168       | 66       |     | 2.49 | 2.95   | 3.43 | 3.94 | 4.01 | 3.94 | 3.83 | 3.73 | 3.64 | 3.53 | 3.41 | 3.28 | 3.12 | 2.96 | 2.79 | 2.64 |
| 175       | 69       |     | 2.75 | 3.25   | 3.79 | 4.35 | 4.44 | 4.35 | 4.23 | 4.12 | 4.02 | 3.90 | 3.77 | 3.63 | 3.46 | 3.27 | 3.09 | 2.92 |
| 183       | 72       |     | 3.06 | 3.63   | 4.23 | 4.85 | 4.94 | 4.84 | 4.72 | 4.60 | 4.48 | 4.35 | 4.20 | 4.04 | 3.85 | 3.64 | 3.44 | 3.25 |
| 191       | 75       |     | 3.40 | 4.03   | 4.70 | 5.38 | 5.49 | 5.38 | 5.24 | 5.10 | 4.97 | 4.82 | 4.66 | 4.48 | 4.27 | 4.04 | 3.82 | 3.61 |
| 198       | 78       |     | 3.71 | 4.40   | 5.12 | 5.88 | 5.99 | 5.88 | 5.71 | 5.57 | 5.42 | 5.26 | 5.09 | 4.90 | 4.67 | 4.41 | 4.17 | 3.94 |
| 206       | 81       |     | 4.09 | 4.84   | 5.65 | 6.47 | 6.60 | 6.47 | 6.30 | 6.14 | 5.97 | 5.80 | 5.61 | 5.39 | 5.14 | 4.87 | 4.59 | 4.34 |

| FEV1<br>cm | Units: L |     | Male | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|----------|-----|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | Ins      | Age | 5    | 10     | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 122        | 48       |     | 1.07 | 1.17   | 1.36 | 1.54 | 1.55 | 1.50 | 1.45 | 1.40 | 1.34 | 1.28 | 1.21 | 1.13 | 1.06 | 0.98 | 0.91 | 0.85 |
| 130        | 51       |     | 1.24 | 1.37   | 1.58 | 1.79 | 1.80 | 1.75 | 1.68 | 1.62 | 1.56 | 1.48 | 1.40 | 1.32 | 1.23 | 1.14 | 1.06 | 0.98 |
| 137        | 54       |     | 1.40 | 1.54   | 1.78 | 2.02 | 2.04 | 1.98 | 1.90 | 1.83 | 1.75 | 1.67 | 1.58 | 1.49 | 1.39 | 1.29 | 1.19 | 1.11 |
| 145        | 57       |     | 1.60 | 1.76   | 2.03 | 2.31 | 2.33 | 2.25 | 2.17 | 2.09 | 2.00 | 1.91 | 1.81 | 1.70 | 1.59 | 1.47 | 1.37 | 1.26 |
| 152        | 60       |     | 1.79 | 1.97   | 2.28 | 2.58 | 2.59 | 2.52 | 2.43 | 2.33 | 2.24 | 2.13 | 2.02 | 1.90 | 1.77 | 1.64 | 1.53 | 1.41 |
| 160        | 63       |     | 2.02 | 2.22   | 2.56 | 2.91 | 2.93 | 2.84 | 2.73 | 2.63 | 2.52 | 2.41 | 2.28 | 2.14 | 2.00 | 1.85 | 1.71 | 1.60 |
| 168        | 66       |     | 2.27 | 2.48   | 2.87 | 3.26 | 3.28 | 3.18 | 3.06 | 2.94 | 2.83 | 2.70 | 2.55 | 2.40 | 2.24 | 2.08 | 1.92 | 1.79 |
| 175        | 69       |     | 2.49 | 2.73   | 3.16 | 3.58 | 3.61 | 3.50 | 3.37 | 3.24 | 3.11 | 2.97 | 2.81 | 2.64 | 2.46 | 2.28 | 2.12 | 1.97 |
| 183        | 72       |     | 2.76 | 3.04   | 3.51 | 3.97 | 4.01 | 3.89 | 3.74 | 3.60 | 3.45 | 3.29 | 3.11 | 2.93 | 2.73 | 2.54 | 2.35 | 2.19 |
| 191        | 75       |     | 3.06 | 3.36   | 3.88 | 4.39 | 4.43 | 4.29 | 4.13 | 3.98 | 3.82 | 3.64 | 3.45 | 3.23 | 3.02 | 2.80 | 2.60 | 2.41 |
| 198        | 78       |     | 3.33 | 3.65   | 4.22 | 4.78 | 4.82 | 4.68 | 4.50 | 4.33 | 4.15 | 3.96 | 3.75 | 3.52 | 3.29 | 3.05 | 2.83 | 2.63 |
| 206        | 81       |     | 3.65 | 4.01   | 4.63 | 5.25 | 5.29 | 5.12 | 4.93 | 4.75 | 4.56 | 4.34 | 4.11 | 3.87 | 3.60 | 3.34 | 3.10 | 2.88 |

| FEV1/FVC |     | Male | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------|-----|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| cm       | Ins | Age  | 5      | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 122      | 48  |      | 0.63   | 0.54 | 0.51 | 0.50 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.38 |
| 130      | 51  |      | 0.63   | 0.54 | 0.51 | 0.50 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.38 |
| 137      | 54  |      | 0.62   | 0.54 | 0.51 | 0.50 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.38 |
| 145      | 57  |      | 0.62   | 0.54 | 0.51 | 0.50 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 152      | 60  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 160      | 63  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 168      | 66  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 175      | 69  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 183      | 72  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 191      | 75  |      | 0.62   | 0.53 | 0.51 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.42 | 0.41 | 0.40 | 0.39 | 0.38 | 0.37 |
| 198      | 78  |      | 0.62   | 0.53 | 0.50 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.43 | 0.41 | 0.40 | 0.39 | 0.39 | 0.38 | 0.37 |
| 206      | 81  |      | 0.62   | 0.53 | 0.50 | 0.49 | 0.48 | 0.47 | 0.46 | 0.45 | 0.44 | 0.42 | 0.41 | 0.40 | 0.39 | 0.39 | 0.38 | 0.37 |



## Global Lungs White Females Lower Limit of Normality

| FVC<br>cm | Units: L |     | Female |      | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------|----------|-----|--------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|           | Ins      | Age | 5      | 10   | 15     | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 114       | 45       |     | 0.90   | 1.10 | 1.26   | 1.35 | 1.37 | 1.37 | 1.36 | 1.33 | 1.28 | 1.22 | 1.16 | 1.09 | 1.02 | 0.95 | 0.89 | 0.83 |
| 122       | 48       |     | 1.06   | 1.28 | 1.48   | 1.58 | 1.61 | 1.61 | 1.59 | 1.55 | 1.51 | 1.43 | 1.35 | 1.28 | 1.20 | 1.12 | 1.04 | 0.98 |
| 130       | 51       |     | 1.23   | 1.49 | 1.72   | 1.83 | 1.86 | 1.86 | 1.84 | 1.80 | 1.74 | 1.66 | 1.57 | 1.48 | 1.39 | 1.30 | 1.21 | 1.13 |
| 137       | 54       |     | 1.39   | 1.68 | 1.94   | 2.07 | 2.10 | 2.10 | 2.09 | 2.04 | 1.97 | 1.88 | 1.78 | 1.67 | 1.57 | 1.46 | 1.37 | 1.27 |
| 145       | 57       |     | 1.59   | 1.92 | 2.22   | 2.37 | 2.41 | 2.41 | 2.37 | 2.33 | 2.25 | 2.14 | 2.03 | 1.91 | 1.79 | 1.67 | 1.56 | 1.46 |
| 152       | 60       |     | 1.78   | 2.15 | 2.48   | 2.64 | 2.68 | 2.68 | 2.65 | 2.60 | 2.51 | 2.39 | 2.27 | 2.13 | 1.99 | 1.86 | 1.74 | 1.63 |
| 160       | 63       |     | 2.00   | 2.42 | 2.80   | 2.98 | 3.03 | 3.02 | 2.99 | 2.93 | 2.82 | 2.69 | 2.55 | 2.40 | 2.25 | 2.10 | 1.96 | 1.83 |
| 168       | 66       |     | 2.24   | 2.71 | 3.13   | 3.34 | 3.39 | 3.39 | 3.35 | 3.28 | 3.17 | 3.02 | 2.86 | 2.69 | 2.52 | 2.36 | 2.20 | 2.05 |
| 175       | 69       |     | 2.46   | 2.98 | 3.44   | 3.67 | 3.73 | 3.72 | 3.69 | 3.61 | 3.49 | 3.33 | 3.15 | 2.96 | 2.77 | 2.59 | 2.42 | 2.26 |
| 183       | 72       |     | 2.73   | 3.31 | 3.82   | 4.07 | 4.14 | 4.14 | 4.09 | 4.01 | 3.87 | 3.69 | 3.49 | 3.29 | 3.08 | 2.88 | 2.69 | 2.50 |
| 191       | 75       |     | 3.02   | 3.66 | 4.22   | 4.50 | 4.58 | 4.57 | 4.53 | 4.43 | 4.27 | 4.08 | 3.86 | 3.63 | 3.40 | 3.18 | 2.96 | 2.77 |
| 198       | 78       |     | 3.28   | 3.98 | 4.59   | 4.90 | 4.97 | 4.97 | 4.92 | 4.82 | 4.65 | 4.44 | 4.20 | 3.94 | 3.70 | 3.46 | 3.22 | 3.01 |

| FEV1<br>cm | Units: L |     | Female |      | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |
|------------|----------|-----|--------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|            | Ins      | Age | 5      | 10   | 15     | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 114        | 45       |     | 0.87   | 0.99 | 1.15   | 1.21 | 1.21 | 1.19 | 1.16 | 1.11 | 1.06 | 1.00 | 0.95 | 0.88 | 0.83 | 0.78 | 0.72 | 0.68 |
| 122        | 48       |     | 1.01   | 1.15 | 1.34   | 1.41 | 1.41 | 1.38 | 1.34 | 1.30 | 1.23 | 1.17 | 1.09 | 1.02 | 0.96 | 0.90 | 0.85 | 0.79 |
| 130        | 51       |     | 1.16   | 1.31 | 1.54   | 1.62 | 1.62 | 1.58 | 1.54 | 1.49 | 1.42 | 1.34 | 1.26 | 1.18 | 1.11 | 1.04 | 0.97 | 0.91 |
| 137        | 54       |     | 1.30   | 1.48 | 1.72   | 1.82 | 1.82 | 1.78 | 1.73 | 1.67 | 1.59 | 1.51 | 1.41 | 1.33 | 1.24 | 1.17 | 1.09 | 1.03 |
| 145        | 57       |     | 1.47   | 1.67 | 1.95   | 2.06 | 2.06 | 2.02 | 1.96 | 1.89 | 1.80 | 1.70 | 1.60 | 1.50 | 1.41 | 1.32 | 1.24 | 1.16 |
| 152        | 60       |     | 1.63   | 1.85 | 2.16   | 2.28 | 2.28 | 2.24 | 2.17 | 2.10 | 2.00 | 1.89 | 1.77 | 1.67 | 1.56 | 1.46 | 1.37 | 1.29 |
| 160        | 63       |     | 1.83   | 2.07 | 2.42   | 2.56 | 2.56 | 2.50 | 2.44 | 2.34 | 2.24 | 2.12 | 1.99 | 1.86 | 1.74 | 1.64 | 1.53 | 1.44 |
| 168        | 66       |     | 2.03   | 2.31 | 2.69   | 2.85 | 2.85 | 2.79 | 2.71 | 2.62 | 2.49 | 2.36 | 2.21 | 2.08 | 1.94 | 1.82 | 1.71 | 1.60 |
| 175        | 69       |     | 2.23   | 2.53 | 2.94   | 3.12 | 3.12 | 3.05 | 2.97 | 2.86 | 2.72 | 2.58 | 2.42 | 2.27 | 2.13 | 1.99 | 1.86 | 1.76 |
| 183        | 72       |     | 2.46   | 2.79 | 3.25   | 3.43 | 3.43 | 3.37 | 3.27 | 3.15 | 3.01 | 2.85 | 2.67 | 2.50 | 2.34 | 2.19 | 2.06 | 1.94 |
| 191        | 75       |     | 2.70   | 3.06 | 3.57   | 3.77 | 3.77 | 3.70 | 3.60 | 3.46 | 3.30 | 3.12 | 2.94 | 2.75 | 2.57 | 2.41 | 2.26 | 2.13 |
| 198        | 78       |     | 2.92   | 3.32 | 3.87   | 4.09 | 4.09 | 4.01 | 3.89 | 3.75 | 3.57 | 3.38 | 3.18 | 2.98 | 2.79 | 2.61 | 2.45 | 2.30 |

| FEV1/FVC<br>cm | Ins | Age | Female |      | Whites |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----|-----|--------|------|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                |     |     | 5      | 10   | 15     | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   |
| 114            | 45  |     | 0.65   | 0.58 | 0.57   | 0.56 | 0.55 | 0.54 | 0.53 | 0.51 | 0.50 | 0.48 | 0.46 | 0.45 | 0.43 | 0.41 | 0.40 | 0.38 |
| 122            | 48  |     | 0.64   | 0.57 | 0.57   | 0.56 | 0.55 | 0.54 | 0.53 | 0.51 | 0.50 | 0.48 | 0.46 | 0.44 | 0.43 | 0.41 | 0.40 | 0.38 |
| 130            | 51  |     | 0.64   | 0.57 | 0.56   | 0.56 | 0.55 | 0.54 | 0.52 | 0.51 | 0.49 | 0.48 | 0.46 | 0.44 | 0.42 | 0.41 | 0.39 | 0.38 |
| 137            | 54  |     | 0.64   | 0.57 | 0.56   | 0.55 | 0.54 | 0.53 | 0.52 | 0.51 | 0.49 | 0.47 | 0.46 | 0.44 | 0.42 | 0.41 | 0.39 | 0.38 |
| 145            | 57  |     | 0.63   | 0.56 | 0.56   | 0.55 | 0.54 | 0.53 | 0.52 | 0.50 | 0.49 | 0.47 | 0.45 | 0.44 | 0.42 | 0.41 | 0.39 | 0.38 |
| 152            | 60  |     | 0.63   | 0.56 | 0.56   | 0.55 | 0.54 | 0.53 | 0.52 | 0.50 | 0.49 | 0.47 | 0.45 | 0.44 | 0.42 | 0.40 | 0.39 | 0.37 |
| 160            | 63  |     | 0.63   | 0.56 | 0.55   | 0.55 | 0.54 | 0.53 | 0.51 | 0.50 | 0.49 | 0.47 | 0.45 | 0.43 | 0.42 | 0.40 | 0.39 | 0.37 |
| 168            | 66  |     | 0.63   | 0.56 | 0.55   | 0.54 | 0.54 | 0.52 | 0.51 | 0.50 | 0.48 | 0.47 | 0.45 | 0.43 | 0.42 | 0.40 | 0.39 | 0.37 |
| 175            | 69  |     | 0.62   | 0.56 | 0.55   | 0.54 | 0.53 | 0.52 | 0.51 | 0.50 | 0.48 | 0.47 | 0.45 | 0.43 | 0.41 | 0.40 | 0.38 | 0.37 |
| 183            | 72  |     | 0.62   | 0.55 | 0.55   | 0.54 | 0.53 | 0.52 | 0.51 | 0.50 | 0.48 | 0.46 | 0.45 | 0.43 | 0.41 | 0.40 | 0.38 | 0.37 |
| 191            | 75  |     | 0.62   | 0.55 | 0.55   | 0.54 | 0.53 | 0.52 | 0.51 | 0.49 | 0.48 | 0.46 | 0.45 | 0.43 | 0.41 | 0.40 | 0.38 | 0.37 |
| 198            | 78  |     | 0.62   | 0.55 | 0.54   | 0.54 | 0.53 | 0.52 | 0.51 | 0.49 | 0.48 | 0.46 | 0.44 | 0.43 | 0.41 | 0.40 | 0.38 | 0.37 |