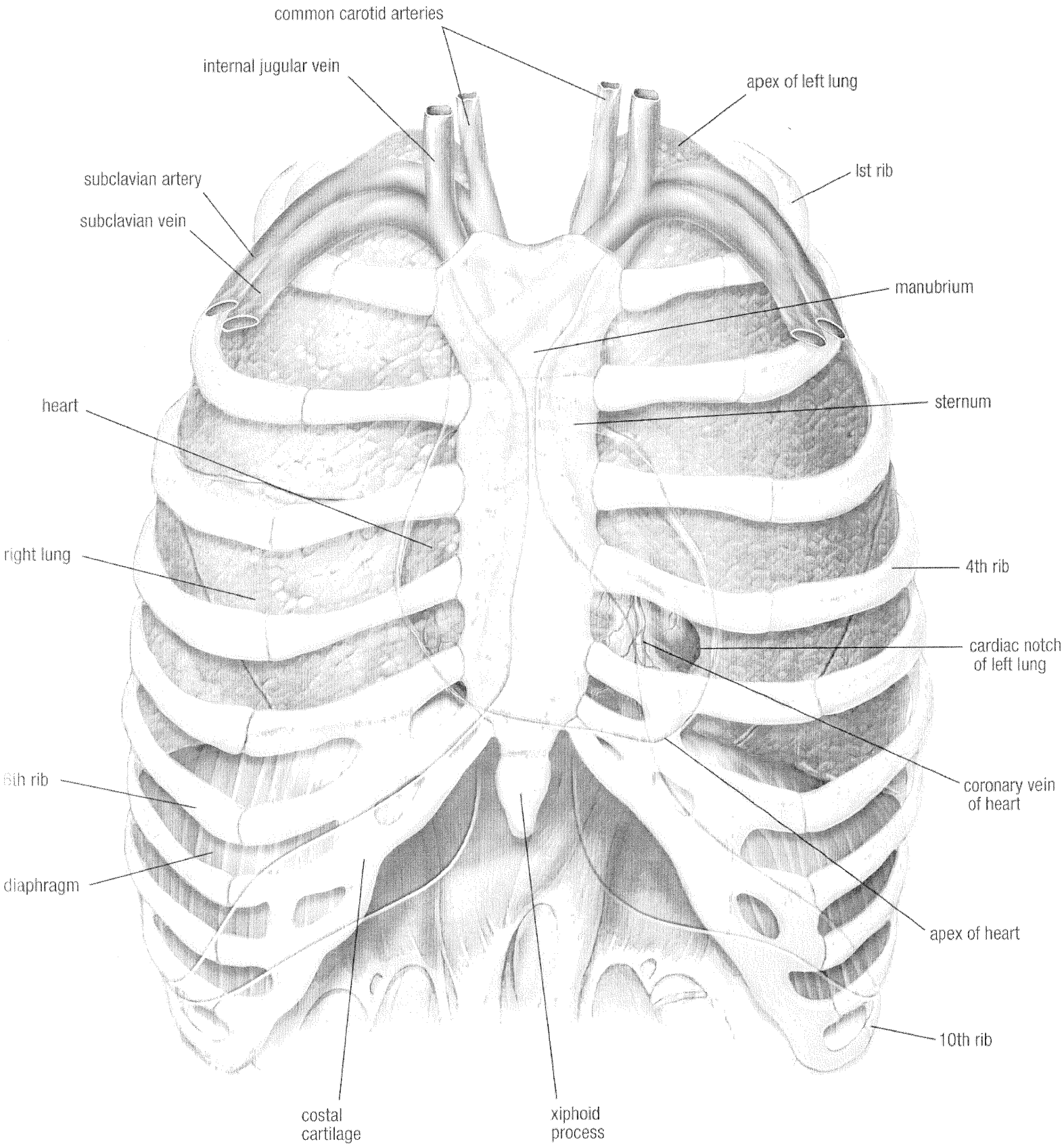
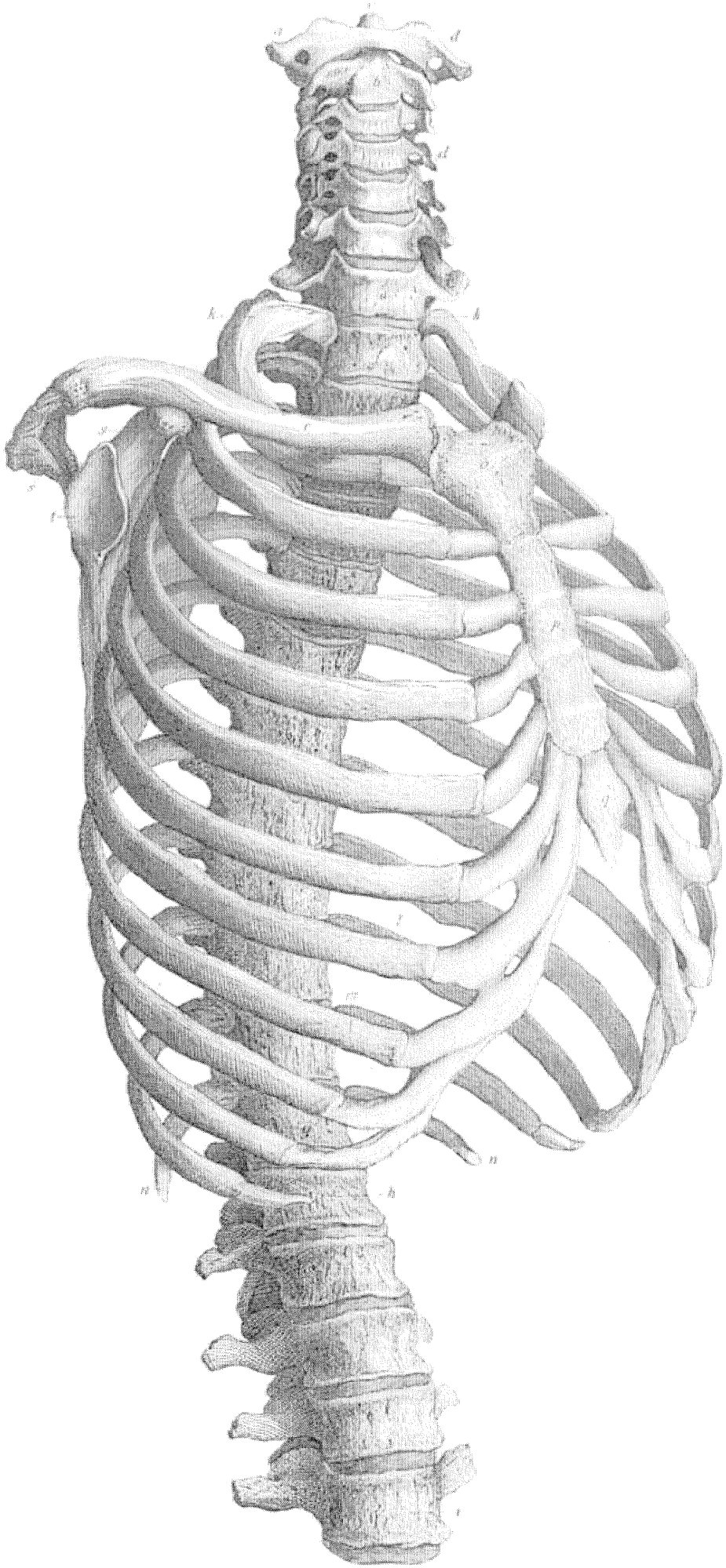
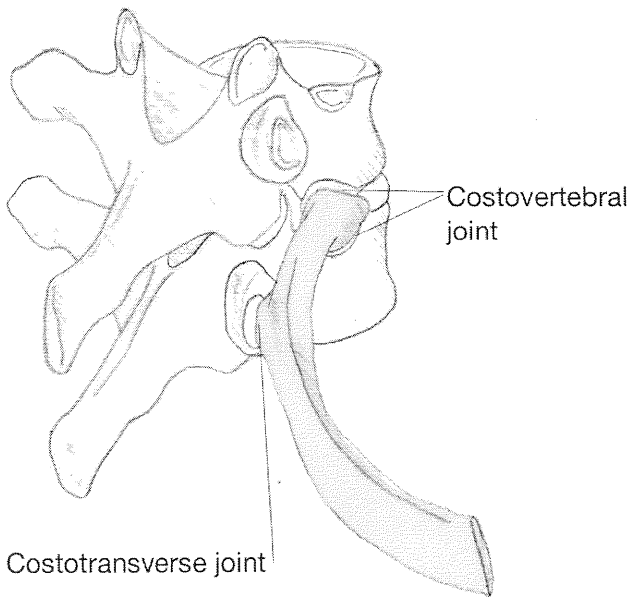
VISCERA OF THORAX (ANTERIOR VIEW)

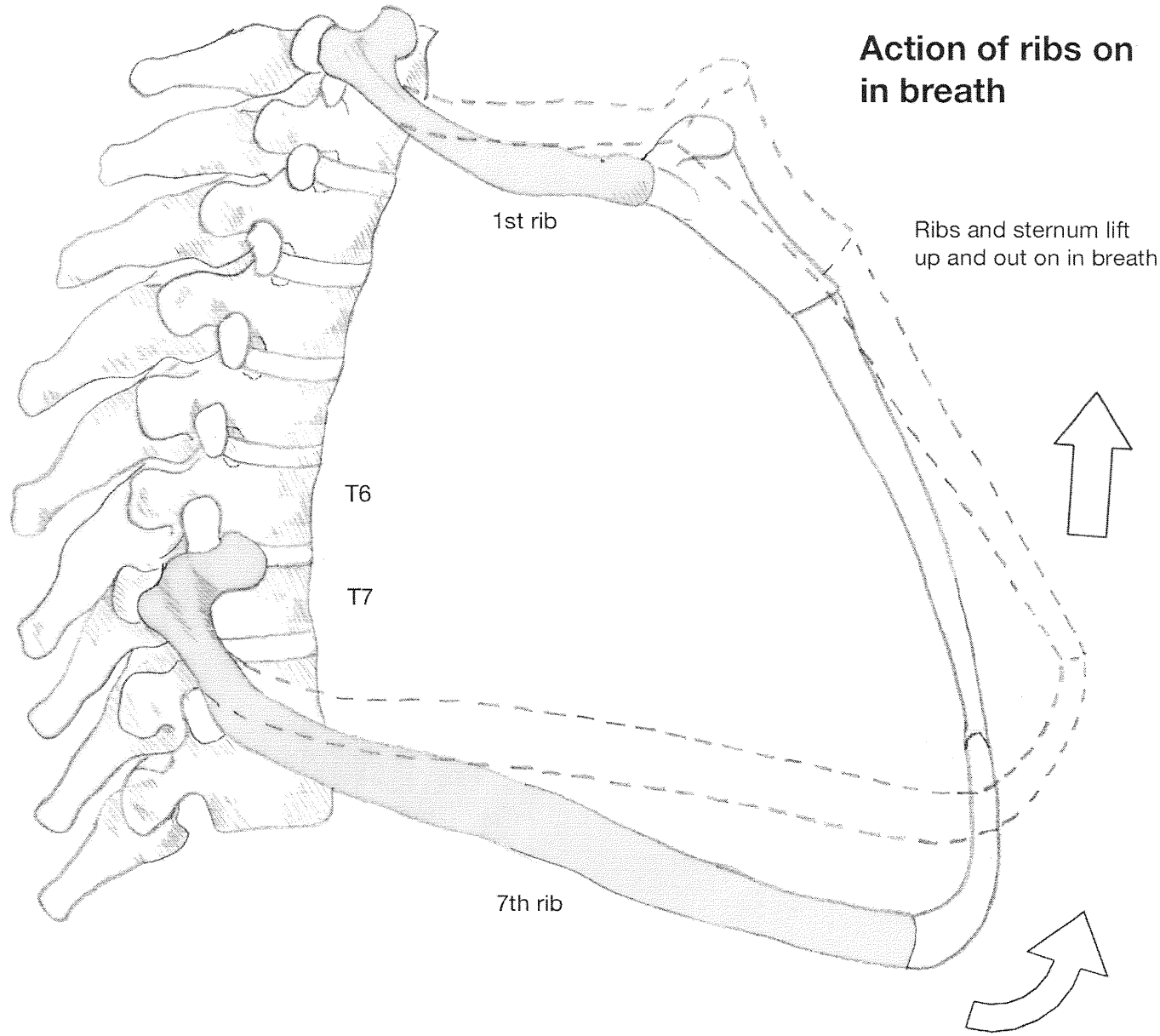



a
d
d
k
b
s
t
n
m
h

Oblique view of attachment seventh rib to vertebrae



Action of ribs on in breath



	20	25	30	35	40	45	50	55	60	65	70	75	80
4'	1.8	1.8	1.7	1.7	1.6	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.9
4' 1"	1.9	1.8	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0
4' 2"	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0
4' 3"	2.1	2.0	1.9	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.1	1.0
4' 4"	2.1	2.1	2.0	1.9	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1
4' 5"	2.2	2.2	2.1	2.0	1.9	1.9	1.8	1.7	1.6	1.5	1.4	1.2	1.1
4' 6"	2.3	2.2	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2
4' 7"	2.4	2.3	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.3	1.2
4' 8"	2.5	2.4	2.3	2.3	2.2	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.2
4' 9"	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.4	1.3
4' 10"	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.6	1.5	1.3
4' 11"	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	1.9	1.8	1.7	1.5	1.4
5'	2.8	2.8	2.7	2.6	2.5	2.4	2.3	2.1	2.0	1.9	1.7	1.6	1.4
5' 1"	2.9	2.9	2.8	2.7	2.6	2.5	2.3	2.2	2.1	1.9	1.8	1.6	1.5
5' 2"	3.0	3.0	2.9	2.8	2.7	2.5	2.4	2.3	2.2	2.0	1.9	1.7	1.5
5' 3"	3.1	3.1	3.0	2.9	2.7	2.6	2.5	2.4	2.2	2.1	1.9	1.7	1.6
5' 4"	3.2	3.2	3.1	2.9	2.8	2.7	2.6	2.4	2.3	2.1	2.0	1.8	1.6
5' 5"	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.5	2.4	2.2	2.0	1.9	1.7
5' 6"	3.4	3.4	3.2	3.1	3.0	2.9	2.7	2.6	2.4	2.3	2.1	1.9	1.7
5' 7"	3.6	3.5	3.3	3.2	3.1	3.0	2.8	2.7	2.5	2.3	2.2	2.0	1.8
5' 8"	3.7	3.6	3.4	3.3	3.2	3.1	2.9	2.8	2.6	2.4	2.2	2.0	1.8
5' 9"	3.8	3.7	3.5	3.4	3.3	3.1	3.0	2.8	2.7	2.5	2.3	2.1	1.9
5' 10"	3.9	3.8	3.7	3.5	3.4	3.2	3.1	2.9	2.7	2.6	2.4	2.2	1.9
5' 11"	4.0	3.9	3.8	3.6	3.5	3.3	3.2	3.0	2.8	2.6	2.4	2.2	2.0
6'	4.1	4.0	3.9	3.7	3.6	3.4	3.3	3.1	2.9	2.7	2.5	2.3	2.1
6' 1"	4.2	4.1	4.0	3.8	3.7	3.5	3.4	3.2	3.0	2.8	2.6	2.3	2.1
6' 2"	4.3	4.2	4.1	3.9	3.8	3.6	3.4	3.3	3.1	2.9	2.6	2.4	2.2
6' 3"	4.5	4.3	4.2	4.0	3.9	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.2
6' 4"	4.6	4.4	4.3	4.2	4.0	3.8	3.6	3.4	3.2	3.0	2.8	2.5	2.3
6' 5"	4.7	4.6	4.4	4.3	4.1	3.9	3.7	3.5	3.3	3.1	2.9	2.6	2.3
6' 6"	4.8	4.7	4.5	4.4	4.2	4.0	3.8	3.6	3.4	3.2	2.9	2.7	2.4
6' 7"	4.9	4.8	4.7	4.5	4.3	4.1	3.9	3.7	3.5	3.3	3.0	2.7	2.5
6' 8"	5.1	4.9	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.3	3.1	2.8	2.5
6' 9"	5.2	5.0	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.4	3.2	2.9	2.6
6' 10"	5.3	5.2	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.5	3.2	3.0	2.7
6' 11"	5.5	5.3	5.1	5.0	4.8	4.6	4.3	4.1	3.9	3.6	3.3	3.0	2.7
7'	5.6	5.4	5.3	5.1	4.9	4.7	4.4	4.2	3.9	3.7	3.4	3.1	2.8
7' 1"	5.7	5.6	5.4	5.2	5.0	4.8	4.5	4.3	4.0	3.8	3.5	3.2	2.9
7' 2"	5.9	5.7	5.5	5.3	5.1	4.9	4.7	4.4	4.1	3.9	3.6	3.3	2.9
7' 3"	6.0	5.8	5.6	5.4	5.2	5.0	4.8	4.5	4.2	3.9	3.6	3.3	3.0
7' 4"	6.1	6.0	5.8	5.6	5.4	5.1	4.9	4.6	4.3	4.0	3.7	3.4	3.1
7' 5"	6.3	6.1	5.9	5.7	5.5	5.2	5.0	4.7	4.4	4.1	3.8	3.5	3.1
7' 6"	6.4	6.2	6.0	5.8	5.6	5.4	5.1	4.8	4.5	4.2	3.9	3.6	3.2

*Estimated vital capacities for **females** in liters. Follow height (in left column) and age (at top, in five year increments). Based on a formula from the American Thoracic Society*[205]

	20	25	30	35	40	45	50	55	60	65	70	75	80
4'	2.1	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.2
4' 1"	2.2	2.2	2.1	2.1	2.0	1.9	1.8	1.8	1.7	1.6	1.5	1.4	1.3
4' 2"	2.3	2.3	2.2	2.1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3
4' 3"	2.4	2.4	2.3	2.2	2.1	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4
4' 4"	2.5	2.4	2.4	2.3	2.2	2.2	2.1	2.0	1.9	1.8	1.7	1.6	1.4
4' 5"	2.6	2.5	2.5	2.4	2.3	2.2	2.1	2.1	2.0	1.8	1.7	1.6	1.5
4' 6"	2.7	2.6	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.8	1.7	1.5
4' 7"	2.8	2.7	2.7	2.6	2.5	2.4	2.3	2.2	2.1	2.0	1.9	1.7	1.6
4' 8"	2.9	2.8	2.8	2.7	2.6	2.5	2.4	2.3	2.2	2.1	1.9	1.8	1.7
4' 9"	3.0	2.9	2.9	2.8	2.7	2.6	2.5	2.4	2.3	2.1	2.0	1.9	1.7
4' 10"	3.1	3.0	3.0	2.9	2.8	2.7	2.6	2.5	2.3	2.2	2.1	1.9	1.8
4' 11"	3.2	3.1	3.1	3.0	2.9	2.8	2.7	2.5	2.4	2.3	2.1	2.0	1.8
5'	3.3	3.3	3.2	3.1	3.0	2.9	2.8	2.6	2.5	2.4	2.2	2.1	1.9
5' 1"	3.4	3.4	3.3	3.2	3.1	3.0	2.8	2.7	2.6	2.4	2.3	2.1	2.0
5' 2"	3.6	3.5	3.4	3.3	3.2	3.1	2.9	2.8	2.7	2.5	2.4	2.2	2.0
5' 3"	3.7	3.6	3.5	3.4	3.3	3.2	3.0	2.9	2.8	2.6	2.4	2.3	2.1
5' 4"	3.8	3.7	3.6	3.5	3.4	3.3	3.1	3.0	2.8	2.7	2.5	2.4	2.2
5' 5"	3.9	3.8	3.7	3.6	3.5	3.4	3.2	3.1	2.9	2.8	2.6	2.4	2.2
5' 6"	4.0	3.9	3.8	3.7	3.6	3.5	3.3	3.2	3.0	2.9	2.7	2.5	2.3
5' 7"	4.2	4.1	4.0	3.8	3.7	3.6	3.4	3.3	3.1	2.9	2.8	2.6	2.4
5' 8"	4.3	4.2	4.1	3.9	3.8	3.7	3.5	3.4	3.2	3.0	2.9	2.7	2.5
5' 9"	4.4	4.3	4.2	4.1	3.9	3.8	3.6	3.5	3.3	3.1	2.9	2.7	2.5
5' 10"	4.5	4.4	4.3	4.2	4.0	3.9	3.7	3.6	3.4	3.2	3.0	2.8	2.6
5' 11"	4.7	4.6	4.4	4.3	4.2	4.0	3.9	3.7	3.5	3.3	3.1	2.9	2.7
6'	4.8	4.7	4.6	4.4	4.3	4.1	4.0	3.8	3.6	3.4	3.2	3.0	2.8
6' 1"	4.9	4.8	4.7	4.6	4.4	4.2	4.1	3.9	3.7	3.5	3.3	3.1	2.8
6' 2"	5.1	5.0	4.8	4.7	4.5	4.4	4.2	4.0	3.8	3.6	3.4	3.1	2.9
6' 3"	5.2	5.1	4.9	4.8	4.6	4.5	4.3	4.1	3.9	3.7	3.5	3.2	3.0
6' 4"	5.3	5.2	5.1	4.9	4.8	4.6	4.4	4.2	4.0	3.8	3.6	3.3	3.1
6' 5"	5.5	5.4	5.2	5.1	4.9	4.7	4.5	4.3	4.1	3.9	3.7	3.4	3.1
6' 6"	5.6	5.5	5.4	5.2	5.0	4.8	4.6	4.4	4.2	4.0	3.8	3.5	3.2
6' 7"	5.8	5.6	5.5	5.3	5.2	5.0	4.8	4.6	4.3	4.1	3.8	3.6	3.3
6' 8"	5.9	5.8	5.6	5.5	5.3	5.1	4.9	4.7	4.4	4.2	3.9	3.7	3.4
6' 9"	6.1	5.9	5.8	5.6	5.4	5.2	5.0	4.8	4.6	4.3	4.0	3.8	3.5
6' 10"	6.2	6.1	5.9	5.7	5.6	5.4	5.1	4.9	4.7	4.4	4.1	3.9	3.6
6' 11"	6.4	6.2	6.1	5.9	5.7	5.5	5.3	5.0	4.8	4.5	4.2	4.0	3.7
7'	6.5	6.4	6.2	6.0	5.8	5.6	5.4	5.2	4.9	4.6	4.4	4.1	3.7
7' 1"	6.7	6.5	6.4	6.2	6.0	5.8	5.5	5.3	5.0	4.7	4.5	4.2	3.8
7' 2"	6.8	6.7	6.5	6.3	6.1	5.9	5.7	5.4	5.1	4.9	4.6	4.3	3.9
7' 3"	7.0	6.8	6.7	6.5	6.3	6.0	5.8	5.5	5.3	5.0	4.7	4.4	4.0
7' 4"	7.2	7.0	6.8	6.6	6.4	6.2	5.9	5.7	5.4	5.1	4.8	4.5	4.1
7' 5"	7.3	7.2	7.0	6.8	6.5	6.3	6.1	5.8	5.5	5.2	4.9	4.6	4.2
7' 6"	7.5	7.3	7.1	6.9	6.7	6.4	6.2	5.9	5.6	5.3	5.0	4.7	4.3

*Estimated vital capacities for **males** in liters. Follow height (in left column) and age (at top, in five year increments). Based on a formula from the American Thoracic Society*[205]