

BASELINE[®] **EVALUATION INSTRUMENTS**

Windmill-Type Spirometer

- lightweight, easy-to grasp spirometer measures forced vital capacity
- broad measurement range from 1000cc to 7000cc with 100cc gradations
- can be used as an incentive spirometer, exerciser or screening device
- comes in case with spirometer and 50 disposable mouthpieces
- additional mouthpieces available



specifications

- measurement range 1000cc to 7000cc with 100cc graduations

how to use

- slide small end of mouthpiece (d) onto spirometer nozzle (c)
- confirm white indicator pointer is set to zero; if not at zero, adjust by rotating outer ring (a) to right or left until indicator points to zero

holding the spirometer during use

- hold spirometer horizontal during use, with the dial facing up and the nozzle towards mouth
- keep spirometer steady during measurement
- when in use do not cover small holes (b) on the side of the upper body

conducting the test

- inhale deeply stretching body upward; do not place mouthpiece between lips while inhaling
- after maximum inhalation, place mouthpiece between lips; breathe out strongly in one motion, making sure all air is forced into mouthpiece; breathe out for 5-6 seconds; use similar technique during each trial
- read measurement on spirometer dial after breathing out; record value and reset dial to zero by rotating outer ring to the left or right
- repeat test 3 time; the maximum value indicates FVC
- discard used mouthpieces after an individual is tested

caring for your spirometer

- to clean spirometer remove lower body (e) by turning it clockwise; after 9 measurements clean the inside lower cavity of spirometer with a cotton swab dipped in an alcohol/disinfectant solution and dry; (if moisture or dust is present in cavity accuracy can be lost)
- this spirometer is a precision instrument so handle with care



tables of FVC measurement norms

- spirometry prediction tables for normal healthy males and females are available to the public to view from the United States Department of Labor in Standard Number 1910.1043 App C; Title “Spirometry prediction tables for normal males and females”
- tables include predicted value of FVC; sorted by Sex, Age and Height
- viewable to the public at the OSHA website www.osha.gov
input *1910.1043 App C* in search box

according to the tables referenced above:

- predicted FVC for a male is greater than female of similar age/height
- predicted FVC increases as height increases for same age/sex
- predicted FVC value peaks for males around age 23-25
- predicted FVC value peaks for females around age 21

Predicted normal values FVC

AGE	MALE (5'10")	FEMALE (5'4")
17	4.71	3.46
21	5.02	3.78
25	5.37	3.69
29	5.26	3.60
33	5.14	3.51
37	5.02	3.43
41	4.91	3.34
45	4.79	3.25
49	4.68	3.16
53	4.56	3.07
57	4.44	2.99
61	4.33	2.90

selected data from: KNUDSON, ET AL.; AM.
REV. RESPIR. DIS. 1976, 113, 587.



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