

LETTER TO THE EDITOR

Re: Coates AL, Graham BL, McFadden RG, et al. Spirometry in primary care. *Can Respir J* 2013;20(1):13-22.

To the Editor,

The CTS Pulmonary Function Standards Committee deserves praise for the excellent and concise recommendations on spirometry in primary care (1). The recommendations are wide-ranging, covering the administration of spirometric tests, the interpretation of test results, quality assurance, accreditation, as well as a lucid proposal for uniform presentation of test results that enables interpretation almost in the blink of an eye. The latter is a huge step forward because the graphical representation of only those indexes that matter for clinical decision making will greatly facilitate correct interpretation of test results in primary care.

There are a few points that merit annotation. The authors recommend measuring height in cm. Particularly in children and adolescents, rounding off height may lead to considerable inaccuracy of predicted values; the same holds true for age (2). For example, for a child 110 cm tall or an adult 180 cm tall, a 1 cm error leads to an error in the predicted lung function index of 2% and 1.2%, respectively. Rounding off of age, for example, by 0.75 year, leads to age-dependent errors (Table 1). It is for that reason that the Global Lung Function Initiative (GLI) recommends recording age and height accurately to one decimal place, and to measure rather than use self-reported height (3).

The GLI-recommended values expand the age range in the studies by Hankinson et al (4) (six to 80 years of age) and Stanojevic et al (5) (three to 80 years of age) to three to 95 years. In addition to whites, the GLI-2012 equations cover Northeast Asians (northern China and Korea), Southeast Asians (southern China, Taiwan and Thailand) and African Americans. Predicted values were, on average 14% lower in African Americans, and approximately 10% to 14% lower in South East Asians than in whites. Coates et al (1) mention Asians, probably referring to people from India and Pakistan; unfortunately, the GLI group did not have data available to derive

TABLE 1
Rounding off age, here by 0.75 years, leads to errors in the predicted values for forced expiratory volume in 1 s (FEV₁) and forced vital capacity (FVC)

Age, years (rounded off)	Males		Females	
	FEV ₁	FVC	FEV ₁	FVC
3 versus 3.75	-2.8	-3.4	-2.9	-3.6
10 versus 10.75	-1.3	-1.4	-2.6	-2.7
15 versus 15.75	-3.4	-2.9	-3.4	-2.9
50 versus 50.75	+0.4	+0.4	+0.6	+0.7
85 versus 85.75	+0.7	+0.5	+0.9	+1.0

Data presented as % error

predicted values for such a group. It may be worthwhile to point out that a diagnosis of pathological airflow limitation requires the forced expiratory volume in 1 s/forced vital capacity ratio to be below the lower limit of normal (ie, at 1.65 SDs below the predicted value).

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