

Canadian Thoracic Society Pulmonary Standards Committee

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In the current issue of the *Canadian Respiratory Journal*, Tan et al (1) (pages 321-326) propose new reference equations for Caucasian adults. This publication is timely, and points to the need for the development of 'Made in Canada' prediction equations for lung function.

In 2010, the Canadian Thoracic Society (CTS) Executive struck a new committee, with the goal of aiding and improving the use of lung function measurements in Canada. The committee first met at the Canadian Respiratory Conference held in Halifax (Nova Scotia) in 2010, and then again for a full day meeting in Montreal (Quebec) that fall. During discussion, it became apparent that there are very significant regional differences in the running of pulmonary function laboratories. Some provinces have rigorous accreditation standards, while others are much more lax. Some of the standards have essentially been adopted from those in other countries, while some have a more 'Canadian' approach. One of the first tasks of the committee was to attempt to develop recommendations for pulmonary function testing that would be applicable in an accreditation situation, and would be a resource to those running pulmonary function laboratories. The principles driving these recommendations would be to comply with international standards, largely those set in joint documents by the American Thoracic Society and the European Thoracic Society (2-5), but also to have as much Canadian content as possible.

With regard to laboratory accreditation, it is clear that some provinces have a detailed and elaborate approach, whereas others are extremely superficial, focusing on issues such as correct patient identification or whether tanks of compressed gas are appropriately secured to the walls. While the CTS had no interest or mandate to become an accrediting body, it is believed that CTS-endorsed guidelines would greatly aid accrediting bodies in reviewing pulmonary function laboratories and, hopefully, would act as a reference document for quality assurance in the laboratories. Presently, the committee is reviewing accreditation at home and abroad, and is planning to create an amalgam of recommendations that are consistent with world standards but are also practical in the Canadian setting. This setting includes large university teaching hospitals with complete pulmonary function laboratories as well as much smaller laboratories outside the academic centres. In fact, many of these smaller laboratories are in small centres far removed from university influence, and it is often these laboratories that are most in need and most eager for information to improve the value of the testing that they perform.

Members of the committee are also working with Statistics Canada in relation to the recent and ongoing Canadian Health Measures Survey to develop Canadian reference values for spirometry. The committee has also approached Statistics Canada, and urged that the next survey include the measurement of carbon monoxide diffusing capacity to generate Canadian reference equations that are based on the current population and using modern equipment. The other pressing

need that has been identified is the lack of reference values for Aboriginal populations. The committee is exploring approaches to population testing that would shed light on the apparent differences between the widely accepted reference values for Caucasians – usually Hankinson et al (6) – or the more recent reiteration that includes children as young as six years of age (7) and the diverse Aboriginal populations in the country.

The article by Tan et al (1) goes some way toward a 'Made in Canada' solution, but has some advantages and disadvantages. It does provide a lower limit of normal, and the difference between the data from Hankinson et al (6), the largest North American survey to date, is miniscule. Because it is an adults-only data set, it is able to use a much simpler approach to the reference equations, which may make applicability much easier than the approach by Stanojevic et al (7).

The primary disadvantage will be the issues of continuity between the reference equations for adults and children, problems which are avoided by both Stanojevic et al (7) and Hankinson et al (6). Similar to the data set of Stanojevic et al (7), it uses data from more than one survey, obtained with different equipment and separated by more than 10 years. Hopefully, all of these issues will be addressed when the new Statistics Canada data set becomes available.

While the committee has a wide geographical representation and includes pediatricians, it is also eager to hear suggestions and comments from other CTS members with regard to the projects mentioned above, as well as other areas that members believe the committee should focus its attention on.

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