

Thematic Issue: Exercise Testing in Children with Congenital Heart Disease

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EDITORIAL

Physical inactivity is considered as a cardiovascular risk factor in adults. Also in children, physical inactivity is often associated with disease. More specifically children with congenital heart disease (CHD) often were quiescent or did not perform the same activities as their healthy peers.

Exercise tolerance can be assessed by history taking or with questionnaires, but it has been shown that misclassifications were found by using these questionnaires with overestimation of up to 30% of the level of physical activity^[1]. Therefore exercise tolerance has to

be determined by exercise testing preferentially with respiratory gas exchange measurements. In this thematic issue, three review articles are published with a common theme of the assessment of exercise performance in children with congenital heart disease, both operated and non-operated.

The first chapter is dedicated to new concepts in the assessment of exercise tolerance in children with CHD. In this contribution, a new assessment paradigm that optimizes the use of exercise test results to promote physically active lifestyles is recommended. The assessment of physical literacy and an expanded use of the data available from a maximal cardiopulmonary exercise test are discussed in this light.

Since exercise capacity can change in growing children, a second chapter describes the value of serial exercise testing in children with CHD. Regularly repeated assessments of an individual's exercise function can therefore provide unique and valuable insights into the capabilities and cardiovascular health of patients with CHD. Serial exercise testing might as such provide important information both for the assessment of the current health status as for the estimation of the long term outcome of children with CHD.

And finally one contribution will demonstrate the usefulness of exercise testing in the clinical decision making regarding children with a left- to right shunt. Furthermore, in this review, the effects of abolishing left-to right shunt on exercise capacity, both early and late after closure will be summarized.

We hope that readers will enjoy this issue, obtain useful information, and be inspired with new ideas for the implementation and more expanded use of exercise testing in children with CHD.

REFERENCES

- 1 Rogers R, Reybrouck T, Weymans M, Dumoulin M, Van der Hauwaert L, Gewillig M. Reliability of subjective estimates of exercise capacity after Total repair of tetralogy of Fallot. *Acta Paediatrica* 1994; **83**: 866-869.