Currently, children with congenital heart disease are not limited in their submaximal exercise performance.

In several former studies, adolescents and adults with congenital heart disease (CHD) had a reduced exercise capacity even with defects considered to be simple. Currently, children might get better medical management and less restrictions concerning an active lifestyle or sports activities. The exercise performance of this new generation of children with CHD has to be evaluated. In the year 2010, 88 children (12.7 years, 52 males), 11-14 years old, with various CHD performed a cardiopulmonary exercise test in our institution. These children were matched for age and gender with healthy subjects who underwent the same procedure at a school survey. In comparison with healthy controls, children with CHD had a diminished peak oxygen uptake (CHD: 35.5 ml/min/kg vs controls: 42.4 ml/min/kg; P< 0.001) corresponding to 87.1% (CHD) and 99.5% (Controls) of the reference value, respectively. Peak oxygen uptake decreased with the severity of the heart defect (r = -0.410; P< 0.001). However, there was no difference in oxygen uptake at the ventilatory threshold (CHD: 20.6 ml/min/kg vs controls: 21.5 ml/min/kg; P = 0.68). Currently, children with CHD are not limited in their submaximal exercise performance. However, there is still a reduction in peak oxygen uptake.