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## Childhood obesity and its associated disease: Obesity reduction program

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The process of atherosclerosis begins already in childhood and its relationship to the presence and intensity of the known cardiovascular risk factors has been already proved. Expert panel on integrated guidelines for cardiovascular reduction in children and adolescents highlighted early identification of risk factors and their elimination, as they plays a key role in the prevention of CVS diseases. AHA definition of "CVS health" encompasses these parameters: tobacco use, BMI adjusted to the gender and age of a child, physical activity, score of healthy food, total cholesterol, blood pressure, and fasting glycaemia. Obesity causes chronic volume overload (increased preload) and dilation of the left ventricle (LV) of the heart. Hypertrophy LV itself as an adaptation to expanded intravascular volume determines the damage of the diastolic function LV especially by influencing later diastolic passive infilling. For persistent obesity they may of course result in systolic dysfunction and manifest heart failure while damaging the function of the myocardium correlates with body mass index and the duration of obesity. The clinical picture of the consequences of cardiomyopathy depends on the severity of the emerging cardiac changes, age, duration and severity of the obesity, as well as on associated diseases, which often accompany

obesity (arterial hypertension, disorder in the metabolism of lipids and glucose, ischemic heart disease, sleep apnea syndrome, etc.). Weight loss in obese youth is associated with improved metabolic outcomes; weight management goals for this age group are more ambiguous than in adults. In our Children faculty hospital the management of obesity include hospitalization to exclude secondary causes of obesity, spa treatment and outpatients programs. Our highly specialized Clinic for preventive cardiology and lipid metabolism disorders focus on individual and group outpatient therapy for obesity and cardiovascular risk stratification in children and adolescent. Highly organized team of specialists working on interdisciplinary outpatient program- "Obesity reduction program, School of Obesity". This program is focused on the same sex groups of children and adolescent who are in *the same* range of ages. The goal of this program is to win the fight against obesity- prevention of cardiovascular disease associated with obesity, and treatment of childhood obesity by new way. We confirmed that group outpatient therapy for children and their parents had significantly better results in body weight loss ( $p < 0.05$ ) compare to individual therapy during the childhood.

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