

Small effort, high impact: focus on physical activity increases oxygen uptake (VO₂peak), quality of life and mental health after pediatric renal transplantation

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Background: The risk of cardiovascular disease is high after pediatric renal transplantation, and life style intervention reduce this risk. Previous studies have shown that children with a renal transplant have poor oxygen uptake (VO_{2 peak}) and lower quality of life (QoL) and mental health as compared with healthy children. The objectives of this study were to estimate the effects of an adjusted post-transplant follow-up program on VO_{2 peak}, QoL and mental health after introduction, i.e. early physiotherapy and focus on the importance of physical activity.

Methods: VO_{2 peak} was measured by a treadmill exercise test in 20 renal transplanted children on the adjusted post-transplant follow-up compared to a group of 22 patients investigated in a previous trial, before the implementation of new follow-up routines. PedsQoL and SDQ were used to assess QoL and mental health in 45 patients on the new as compared to 32 patients on the previous follow-up strategy.

Results: Early physiotherapy and a higher focus on physical activity showed a significantly impact on VO_{2 peak} (44.3 vs 33.5 ml kg⁻¹ min⁻¹, p = 0.031) in addition to better QoL and mental health scores.

Conclusion: Small efforts as early physiotherapy and increased focus on physical activity after pediatric transplantation have significant impact on cardiorespiratory fitness and QoL. The importance of physical activity should therefore be emphasized in follow-up programs.