

Effects of Monofin Training on Left Ventricular Performance in Elite Egyptian Children Athletes

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Abstract : Objectives: The aim of this study was to examine the influence of Monofin training, 36 weeks, 6 times per week, 90 min/unit on left ventricular performance in elite Egyptian Monofin athletes. Background: The elite athletes are one who has superior athletic talent. Monofin swimming already provide the most efficient way of swimming for human being, it is an aquatics sport practice on the surface or under water. Methods :To study these effects,14 elite Monofin children(3 girls and 11boys) aged(11.95 ± 1.09 yr) HT (153.07 ± 4.2 cm) , WT(52.4 ± 3.7 kg) , body surface area (BSA.m² 1.48 ± 5.6 m²) took part in long-term Monofin Training(LTMT).All subjects underwent two-dimension and M-mode Echordiography at rest before and after(LTMT). Results: There was significant difference ($P < 0.01$) and percentage improvement for all echocardiography parameter after (LTMT). Inter ventricular septal thickness in diastole and in systole increased by 27.9 % and 42.75 %. Left ventricular end systolic dimension and diastole increased by 16.81 % and 42.7 % respectively. Posterior wall thickness in systole was very highly increased by 283.3 % and in diastole increased by 51.78 %. Left ventricular mass in diastole and in systole increased by 44.8 % and 40.1 % respectively. Stroke volume and resting heart rate (HR) significant changed (sv) 25 %, (HR) 14.7 %. Conclusion: Monofin training is an effective sport to enhance 'Heart athlete's' for children, because the unique swim fin tool and create propulsion and overcome resistance. Further researches are needed to determine the effects of Monofin training on right ventricular in child athletes.

Keywords : prepubertal, monofin training, heart athlete's, elite child athlete, echocardiography

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