

THE EFFECT OF TEN WEEKS MINI TRAMPOLINE ACTIVITIES TOWARD ELEMENTARY HIGH GRADE CHILDREN LANDING MOVEMENTS

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Purpose: to probe the effect toward the elementary high grades school children, after the intervention of trampoline activities.

Method: The subjects are 40 elementary high grades school children, there are 20 experimental group and 20 control group by cluster sampling method. The main equipment of the study are the Kistler force plate (120Hz) and the high quality camera (60Hz) which to synchronization acquisition the kinetic and kinematic parameters. The experimental group was implemented the ten-week, twice a week, trampoline activities each times 200 times repetitions. The control group implemented general sports activities. All the subjects accept the 40cm height drop landing tests, the counter movement jump tests, and the static balance abilities tests. The statistic related parameters include: the dynamic parameters (the peak force of the ground reaction force, the time to the peak force, the slop of the force) ; the kinematic

parameters (the degree of knee joints and the stiffness of lower extremity); the counter movement jump (height) ; the static balance ability parameters (the area, path and velocity of COP moving). One-way ANCOVA of variances statistical analysis was used, and the significance level $\alpha=.05$.

Result: The trampoline activities group got the significance level in the knee joint of landing movement ($p<.05$). The peak force, time to peak force, the slop of force and the stiffness of lower extremity got no significant difference.

Conclusion: After the intervention of trampoline activities, the elementary high grades school children had changed with the landing postures of lager knee joints.

Key words: Kinetic, kinematic, counter movement jump, static balance ability.

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