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Human Growth in Sickness and in Health

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Abstracts

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EDIZIONI CENTRO STUDI AUXOLOGICI

	VO _{2max}	VAT	Load _{max}
ASD II	96±9.9	96±14.4	95±12.6
ASD I	93±12.5	92±16.8	96±11.6
VSD	97±11.6	98±21.8	97±11.8
ToF	87±12.5	91±2.2	84±15.3
Sing. V.	63±12.6	77±21.0	60±25.2

Conclusions: The exercise efficiency of patients after cardiosurgical correction of congenital heart defects, such as ASD II, ASD I and VSD is comparable to that of children in the control group. Children subjected to correction of ToF showed significantly lower exercise efficiency than those in the control group, but higher than those with a one-chamber heart after Fontan operation.

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Gross Motor Coordination and Readiness. A Discriminant Analysis in Children from the Azore Islands (Portugal)

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Background: Within the framework of a regional study on growth, motor performance and physical activity, a cross-sectional research was conducted in the Azores islands (Portugal).

Aim: One of the major purposes of this work was to link motor coordination and readiness of school-children with physical education planning in school settings.

Methods: 1908 boys and 1826 girls aged 6 to 10 years old were surveyed in 8 of the 9 Azore Islands. The information covered many domains, but we report here only motor coordination that was assessed with the KTK test battery comprising 4 tests: balancing backward, hopping on one leg, jumping sideways, and shifting platforms. Separate discriminant analysis (by gender) was performed in SYSTAT 10, using age (6 to 10 years) as a group variable.

Results: Intraclass correlation coefficient was used to estimate the reliability of all tests. This was done in 4 independent sub-samples. Values were good, ranging from 0.776 to 0.898. Although mean values in each of the 4 tests showed a significant ($p < 0.001$) increase across ages in each gender, a strong heterogeneity of results (high standard deviations) was found among different ages in each test. In girls a significant discriminant function (DF) emerged (Wilks L=0.635; F=55.703, $p < 0.001$). Classification matrix showed a very low % of correct classified cases: age 6=63%, age 7=28%, age 8=27%, age 9=24%, age 10=54%, which gives a total of 35%. The same pattern occurred in boys, where the DF was also significant (Wilks L=0.630; F=59.239, $p < 0.001$). Classification matrix showed a very low % of correctly classified cases: age 6=67%, age 7=29%, age 8=24%, age 9=21%, age 10=66%, which gives a total of 37%.

Conclusions: These results call for attentive redesign of physical education planning in schools, since there is a strong gap between levels of motor coordination and chronological age. Moreover, the low readiness found in all age groups needs further exploration in connection with habitual informal and formal physical activity, weight problems and physical fitness status.

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Increase in Physical Activity to Prevent Obesity in Adolescents

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Background: There is an epidemic increase in obesity in western societies. The increase cannot be explained by a decrease in energy expenditure (EE) and relative to the Amsterdam Growth Study from age 13 years to adulthood (9 times) over the 23 year period.

Aim: To determine the role of body composition in the increase in BMI and the cross-check interview from the Amsterdam Growth Study.

Methods: Body composition (biceps, triceps, subscapular skinfold thickness, Mass Index (BMI) and the cross-check interview from the Amsterdam Growth Study.

Results: The median value of BMI increased from 17.5 years. BMI and S4S increased from 2% at age 13 to 10% at age 17. The increase in BMI is significantly ($p < 0.001$) not related to lower BMI at age 13.

Conclusion: A low level of physical activity at adolescence and young adulthood is associated with an increase in BMI.