

Publication**Anaerobic performance in 5- to 7-yr-old children of low birthweight****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 105429**Author(s)** Keller, H; Bar-Or, O; Kriemler, S; Ayub, B V; Saigal, S**Author(s) at UniBasel** [Kriemler, Susi](#) ;**Year** 2000**Title** Anaerobic performance in 5- to 7-yr-old children of low birthweight**Journal** Medicine and science in sports and exercise**Volume** 32**Number** 2**Pages / Article-Number** 278-83**Keywords** anaerobic exercise, growth, prematurity, Wingate test

PURPOSE: This study was intended to determine whether anaerobic muscle performance is deficient in 5- to 7-yr-old children of extremely low birthweight (ELBW, 500-999 g) and very low birthweight (VLBW, 1000-1499 g). **METHODS:** Fourteen ELBW and 20 VLBW children were compared with 24 normal birthweight (NBW, >2500 g) term controls. Peak (PP) and mean (MP) muscle power were determined by the Wingate anaerobic test. Bioimpedance analysis and anthropometry were done to assess fat-free mass (FFM) and lean cross-sectional area of the thigh and calf. **RESULTS:** The ELBW group had significantly lower MP and PP, compared with the VLBW and, in particular, with the NBW group. This lower performance was apparent also when values were corrected for total body mass (MP) and FFM (MP and PP), but not when corrected for cross-sectional area of thigh and calf. **CONCLUSION:** The lower anaerobic muscle performance in ELBW children may be partly due to their smaller muscle mass, but may also reflect a low percentage of fast-twitch muscle fibers, low muscle phosphagen content, or deficiency in motor control.

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