maturation in the talent selection process, in order to prevent a biased evaluation of abilities and potential of youth players to achieve success in elite adult soccer.

4.6.3 Aerobic and anaerobic training evaluation based in the distance time relationship in swimming

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This study sought to analyze the relationship between the slope of the distance-time relationship and y-intercept (defined has critical velocity and anaerobic distance capacity; CV and ADC, respectively) determined from the combination of different swimming distances. Seventeen well-trained male competitive swimmers (16.94±2.86 years of age, 177.41±5.83 cm of height, 66.25±9.18 kg of weight) performed several 30-min exercise bouts in different days to determine maximal lactate steady state (MLSS) and the correspondent swimming velocity when blood lactate accumulation increased by no more than 1 mmol·L-1 during the final 20-min of a bout. CV was calculated from 100, 200, 400 and 800-m maximal trials and the y-intercept of the relationship was considered ADC. MLSSv (1.34±0.06 m·s-1) was significantly lower compared to CV200-400 (1.41±0.08 m·s-1), CV200-400-800 (1.39±0.08 m·s-1) and CV100-200-400-800 (1.40±0.08 m·s-1). ADC200-400 (25.01±7.02 m) was not significantly different compared to ADC100-200-400-800 (23.47±4.50 m), but both were smaller than ADC200-400-800 (28.08±6.33 m) ($p<0.01$). None of the calculated ADC were correlated with MLSS or

performance in 100, 200 and 400 m (T100, T200 and T400). Notably, MLSS and the different methods of CV determination were highly correlated to swimming performances. CV determination in swimming should be interpreted with caution, since it is method dependent, although is still a valuable tool to assess training adaptations and could be useful in training prescription and evaluation. Future studies should consider gas exchange and kinematic analysis, aiming to deepen the knowledge regarding the aerobic power training zone in swimming.

4.6.4 Anthropometry, body composition and physical capacities profile of cadet swimmers A and B

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This study sought to analyze the relationship between anthropometry, body composition and physical capacities in cadet swimmers. 8 Cadets B (10.13±0.83 years, 1.48±0.04 m of height, 38.34±4.73 kg of weight) and 8 Cadetes A (11.75±0.46 years of age, 1.62±0.06 m of height, 51.65±7.86 kg of weight) were evaluated. Height and arm span were determined with a measuring tape. Body mass was assessed through bioelectric impedance analysis method (Tanita BC 420S MA, Japan). Countermovement jump (CMJ) was determined using Ergojump System (Byomedic, SCP, Spain) and maximal isometric strength of the dominant hand was evaluated using a digital dynamometer (handgrip - HG; Camry 90 kg). Lower limb flexibility was measured with a seat and reach box. Height, weight, muscular mass (B 33.89±3.44 vs A 44.78±5.03 kg)