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PHYSICAL CHARACTERISTICS

STARTING SOON



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Environmental Factors - RECAP

- Several environmental factors affect the way athletes develop.
- Family and coaches' influence plays a crucial role, especially at the beginning of their sports career.
- The training process should be challenged and continuously adjusted to the athlete's needs, creating a stimulus that allows the athletes to have different experiences as well as promote decision-making processes.
- The context where the athlete is training and the psychological aspects must be considered as one of the most relevant factors.

PHYSICAL CHARACTERISTICS



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- **BIOMOTOR ABILITIES**
- Development of BIOMOTOR abilities plays a crucial role in achieving optimal performance in triathlon.
- Training athletes has an inherent relationship between biomechanical, physical, physiological and psychological factors
- Training can be defined as the periodization of the Conditional Motor Capacities

ANALYSIS OF PERFORMANCE FACTORS IN SPRINT AND OLYMPIC DISTANCE TRIATHLON

The conditional factors that influence the overall performance in triathlon are:



STRENGTH



SPEED



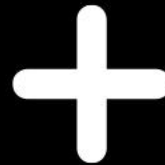
ENDURANCE



FLEXIBILITY



BALANCE &
COORDINATION



Technical



Tactical



Psychological

STRENGTH

Types of strengths and its relationship with triathlon

GENERAL STRENGTH

- Strength of the whole muscular system.
- Preparation phase

SPECIFIC STRENGTH

- Motor patterns of muscle groups that are essential to sporting activity
- End of the preparation phase

MUSCULAR ENDURANCE

- The ability of the neuromuscular system to produce force repetitively over extended periods

SPEED STRENGTH

- The ability to develop force rapidly and at high velocities
- This capacity is used to generate anaerobic lactic efforts.

MAXIMUM STRENGTH

- Refers to the highest force the neuromuscular system can generate during a maximum voluntary contraction

SPEED

Speed is considered the ability of a subject to effectively react and to perform motor actions in a minimum of time, with maximum efficiency and lack of fatigue (Manso, Valdivielso, & Caballero, 1996; Ortiz, 2004).



ENDURANCE

The term endurance in sport is defined by Bompa, 1994 as the capacity of performing work for an extended period.

AEROBIC ENDURANCE

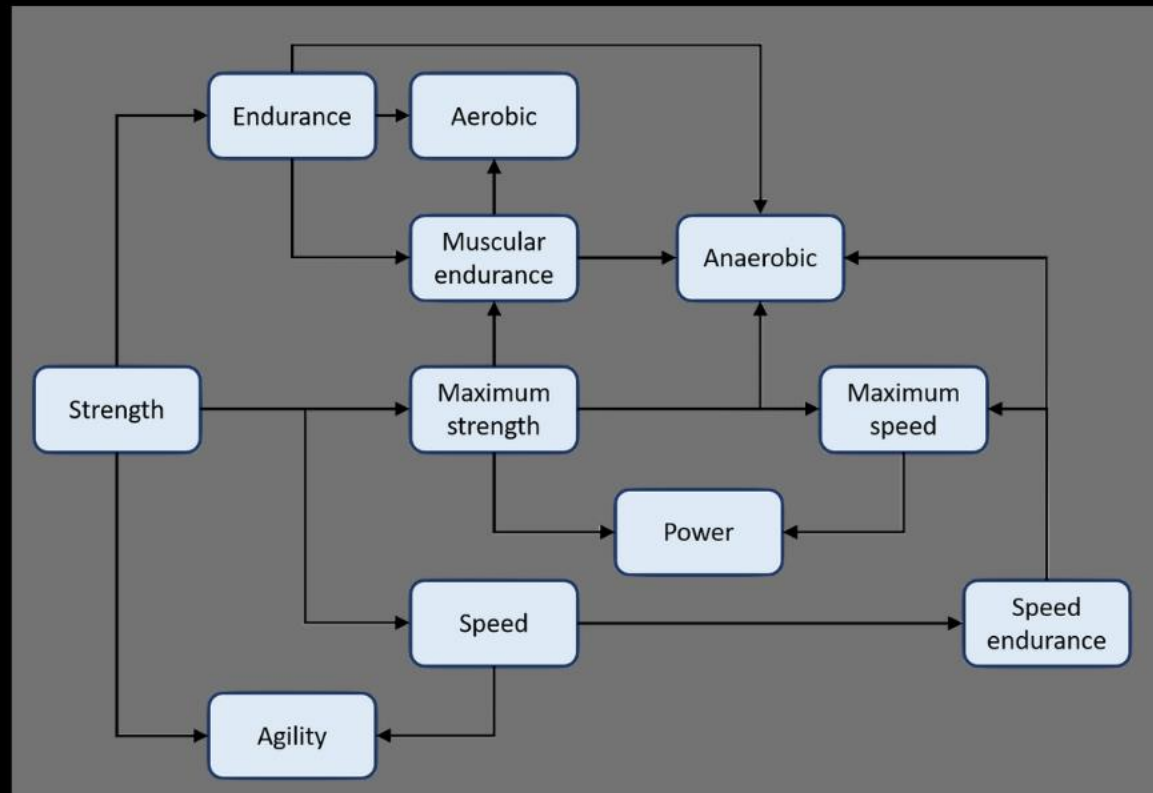
- Allows athletes to perform activities continually for a long duration.
- The capacity to perform at a high level in Olympic distance triathlon will be determined by the maximum aerobic capacity of the athlete (VO2max) (Cejuela, 2009).

ANAEROBIC ENDURANCE

- Provides the ability to perform continuous repetitively or bouts of high-intensity exercise.

BIOMOTOR ABILITIES

As per Bompa, 1994, endurance depends on many factors such as speed, muscle force, technical abilities to perform a movement efficiently, the ability to economically use physiological potentials, and psychological status when performing work.



Interaction of biomotor abilities and various aspects of sports performance. Adapted from Bompa & Buzzichelli, 2018. Periodization: Theory and Methodology of Training.

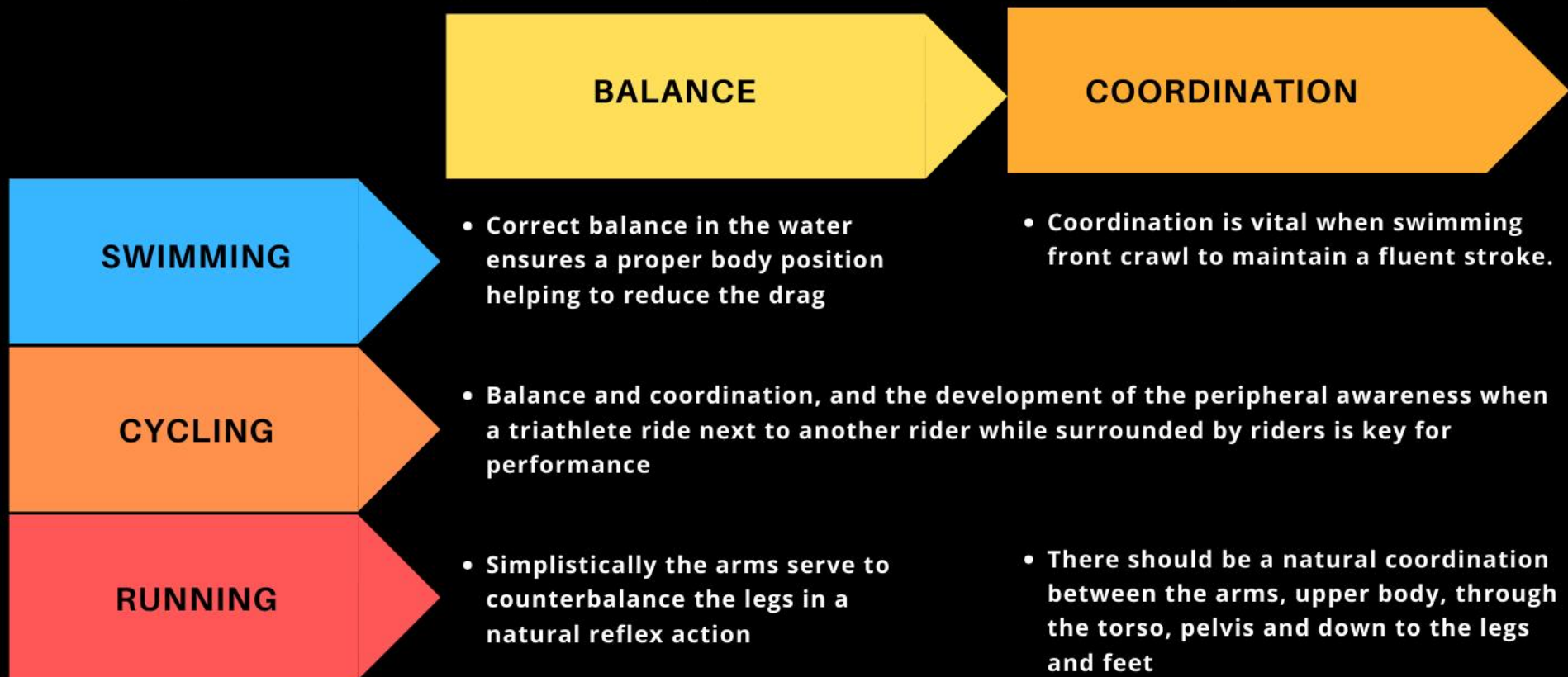
FLEXIBILITY

The ability to move a joint smoothly and efficiently through its entire range of motion.



BALANCE AND COORDINATION

Balance and coordination are fundamental capacities because both are necessary for mastering the techniques of three different disciplines.



Take Home Message

- The performance factors in Sprint and Olympic distance triathlon races and its influence on the overall performance have been previously described.
- The biomotor abilities enable athletes to develop the motor capacities to an optimal level for sports performance, and therefore, should be identified and tested in order to define strengths and weaknesses on the athletes' fitness.
- Beside the components of fitness, balance, coordination and flexibility have been shown as important capacities that should also be assessed and trained accordingly to the specific needs of the sport.




UPCOMING WEBINAR

ATHLETE DEVELOPMENT MODEL

FUNDAMENTAL MOVEMENT SKILLS FOR TRIATHLON



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