

HOW TO START IN BACKSTROKE CONSIDERING THE NEW RULES?

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FINA recently changed the rule that governs the starting position for the backstroke starting technique. With this change, swimmers may now decide to start with the feet emerged, which was previously strictly forbidden. This new liberalization naturally determines the rise of a new technical question for swimmers and coaches: do a starting position with the feet emerged allow a better performance, or better performance conditions for the following actions?

To our knowledge no previous scientific results are available concerning this question, allowing to support any technical decision. During this presentation we will try to deliver arguments to support a technical option in this particular topic, based on the research developed by our group, comparing the traditional starting technique with the feet immersed (BSFI), with the one allowed nowadays, with both feet totally, or partially, emerged (BSFE).

To fulfil this purpose, we studied six experienced male swimmers that maximally performed 4 repetitions of each technique over a distance of 15 meters. All performances were dual-media videotaped (50 Hz) in the sagittal plane, synchronized with kinetic and EMG data simultaneously registered. Kinetic data were assessed using an underwater force plate mounted on a special support on the wall of the pool, allowing the registration of the horizontal component of the forces exerted by the swimmers' feet. The handgrip system was adapted to reproduce its legal position and configuration, but instrumented with a load cell (Globus, Italy) to allow the assessment of the horizontal component of the forces exerted by swimmers' upper limbs. Findings pointed out that BSFI was significantly faster till the 5m reference, with less muscular activity, and with a tendency to produce higher forces against the starting wall. No argument was obtained to support the use of the BSFE in swimming competitions.