The article is well constructed, and it give us some insides of the techniques of backstroke breakout. This topic interests' researchers but also coaches in order to optimize the individual performance of swimmers

I have made some remarks concerning the methodology and the chosen markers to study the impact of the two swimming breakouts in backstroke.

Authors can add some references to improve the discussion part

General Remarks

Please better define the two techniques side arms and top arms at the process and add that in the legend of the figure 1

Abstract

Methods

Add the stroke and the event or the word ranking and year of the points of the population, and separate male and female to specify the level.

Materials

(2) the main stroke of the best results of the world aquatics points at least 600 points, please specify in which event ? 50m backstroke ? or in the year ranking

(3) the main or second main event being backstroke or medley in which distance ?

L 102. Please put the number of training by week or the approximate hours if possible.

L 104. The best performance was realized in 50m or 25m pool ? For the swimmers that they did 'not had a time in 50m backstroke, The test was conducted by researched with other participants or only one swimmer ?

L114. The rest between the two 25m was 3 minutes for all the swimmer ?

How do control if the swimmer control their movements properly during the breakout phase ?

How many swimmer made an additional opportunities of retest ? After how did you chose the test to keep in the study?

Data collection

L. 121: the pool lines were removed to ensure that movements were not obstructed how you measure the 15m time?? I think that you put other marks out of the pool to see when the head of the swimmer pass the 15m. Swimmer continue to swam until 20m? or they stop at 15m?

Researchers verify the position of the feet's or the position of the body before the push off?

L 135-14. You synchronize the cameras with the light and then you said that this study did not analyze continuous frames that means that research verify the synchronization of the cameras and then you analyze camera by camera?

L 285. The authors remarks that only two subjects coordinated with the flutter kick during the side arm that means that for the top arm all swimmers realized a dolphin kick at the first movement at the breakout at the first arm pull? There is the no body roll through the water surface?

Discussion:

Please discuss more about the limitations of the study

In my opinion swimmers will use an optimal and individual strategy to overcome the drag resistance. I think relative underwater distance, start position feet's (high), deep position for dolphin kicks. These parameters could be interesting to study the individual inter variability of underwater and breakout strategy.

Maybe it could be interesting to indicate the total time of each phase and the number of dolphin kick for each condition.

Barkwell et al 2020 show that Both head entry distance and takeoff velocity are related to start performance, suggesting each position may optimize different aspects of the backstroke start.

In breaststroke there is a study of Gonjo T, Olstad BH, Stastny´ J, Conceicão A, Seifert L (2023) Intra- and inter-individual variability in the underwater pull-out technique in 200 m breaststroke turns. PLoS ONE 18(3): e0283234

They found that in breaststroke both inter- and intra-individual variabilities during the underwater phase were evident in 200 m breaststroke turns, which were categorized into three patterns based on the timing of the dolphin kick and the duration of glides. In

some cases intra-individual variability were observed in the relative glide (with the arms at the side) duration and distance.

Authors can also include the study of Chainok et all in the discussion

Chainok et al. 2023 found that backstroke-to-breaststroke turning techniques are specific; developing approaching speed in conjunction with proper gliding posture and pull-out strategy will result in improved turning performance and may influence differently the development of specific training intervention programs.

You can also include practical part to coaches for working the breakout individual adaptation strategies.