

# **An examination of upstream gate performance of British slalom paddlers from across the performance pathway**

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## **Abstract**

### **Background and Purpose**

“Coaches rely on various mental models and stored solutions to problems that allow them to amend their coaching delivery in subtle and nuanced ways” (Lyle & Cushion 2017:173). A mental model covers all aspects of a performance and is the reference point that the coach refers to when they see a performance. However, relying on mental models can be problematic if the model is inaccurate. To inform the mental models of coaches working in British Canoeing’s slalom pathway it is useful to analyse performance of paddlers across the pathway and internationally. Therefore, the purpose of this study was to examine the technical model (techniques used and times) for upstream gate performance of British slalom paddlers from all levels of British Canoeing’s pathway and top performers internationally.

### **What was done?**

Participants: The performances of the top 3 TID’s, 3 national team athletes, top 3 performers in each round of selected competitions plus British athletes were included in the study.

Process: Five events were selected from which data was collected:

- 2 domestic competitions at which all age groups competed
- 2 Junior & U23 championships (World and European)
- Olympic Games

This resulted in 120 Men’s performances (60 Kayak, 60 Canoe) and 111 Women’s performances (60 Kayak, 51 Canoe). Video footage for each performance was collected and upstream gate performance analysed. Measurements calculated were:

- Time around the pole (time starts when the front of torso crosses the vertical blue line below the gate line and stops when the rear of the torso crosses the vertical blue line above the gate line on exit).
- Type of technique used to perform the upstream.

## Key findings

### GB Kayak Men

- A dynamic upstream is between 0.7 and 0.9 seconds quicker than a regular upstream.
- MK1 are less likely to use dynamic techniques in international compared with domestic competition.
- At all levels international medallists (all age groups) use dynamic upstream techniques in over 60% of the upstream gates on a competition course compared to British athletes (all age groups) who used dynamic upstream gate technique 36.7% of the time.

### Kayak Women

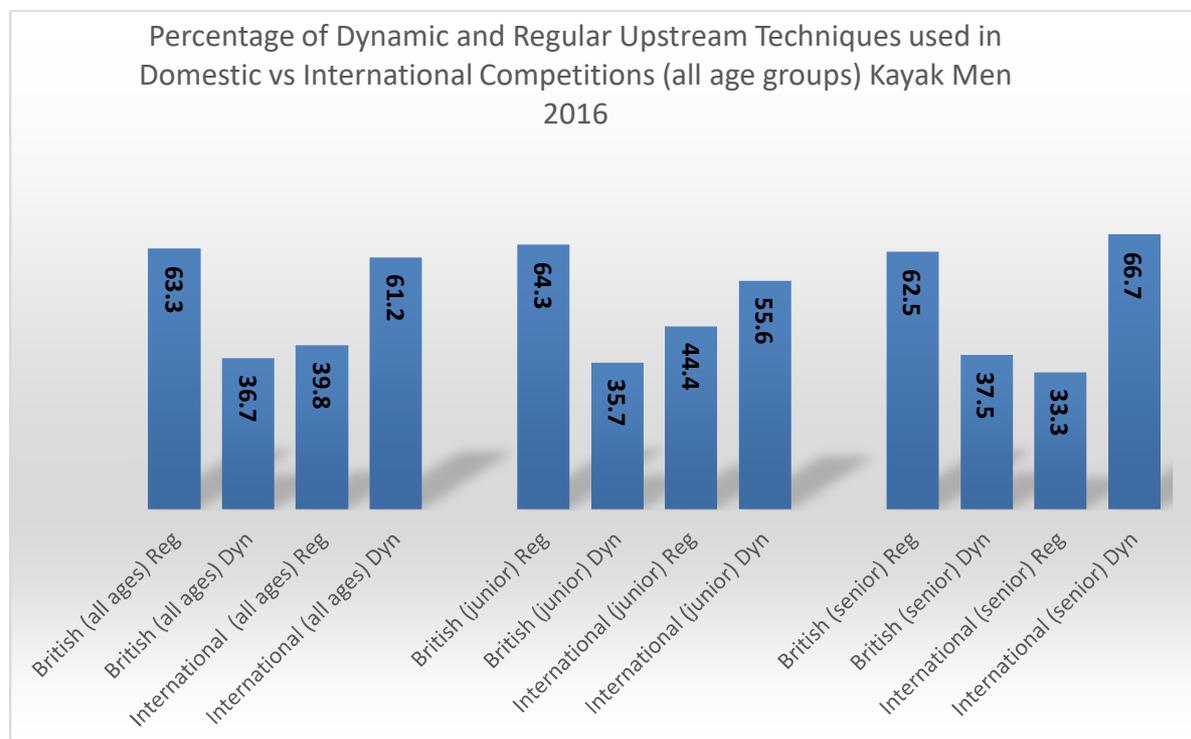
- A dynamic upstream is 0.4 seconds quicker than a regular upstream.

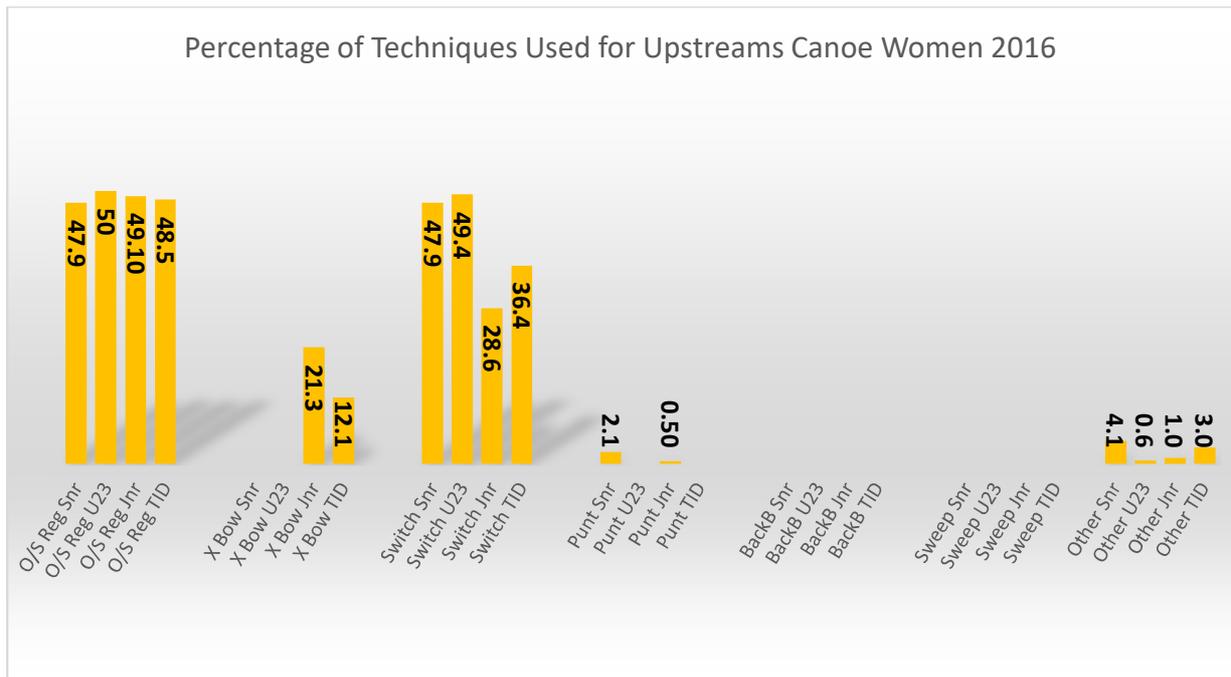
### Canoe Men

- Male paddlers rarely used any stroke other than the on-side and the cross bow (off side) strokes.
- When the situation arises for the paddler to use a dynamic stroke (punt, sweep or back blade) it can clearly be seen to be quicker.

### Canoe women

- Senior athletes tend to switch as their preference.
- The younger junior and U23 women tend to have a blend of both techniques (switching and using the cross-bow stroke).
- The U23 and Junior athletes can deliver cross bow or switch blade upstream's in an almost identical time to that of their preferred onside.





### Points of interest for coaches

Coaches currently have mental models aligned to their coaching practices but may need to adjust their mental models based on the results from this study.

- Our international competitors are using more dynamic upstream techniques than that of our British athletes.
- Canoe men, the athletes should consider using dynamic techniques more (punt, sweep and back blade) when the opportunities arise.
- Canoe women, ensure that the athletes work both their offside stroke and switch technique training to ensure that they can perform either technique proficiently and as effective as their preferred onside stroke

### Conclusion

The results from the study show that there are clear differences between international athletes' and British athlete's technical skills, particularly at delivering dynamic upstream techniques 'when it counts' and cross-bow technique (Canoe women). Adapting the mental models coaches have for technical performance may be needed to continue the progress of British Canoeing athletes on the world stage.

If you would like further information on the research or to receive a copy of the full project please contact: [shaun.pearce19@googlemail.com](mailto:shaun.pearce19@googlemail.com)