The Sprint of Sprint Kayaking

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An Olympic Sport

- Olympic sport since 1936
- Men's 500 m and 1,000 m
- Women's 500 m
- K1, K2, K4
- C1 C2, C4

- 200 m introduced to World Championship programme in 1993
- 200 m Olympic debut in 2012
- Replaces 500 m for men

1. The Energetic Demands

Men's K1 200 m

- ~ 35 sec
- 37% aerobic, 63% anaerobic

Men's K1 500 m

- ~ 1:36 min
- 62% aerobic, 38% anaerobic

Men's K1 1,000 m

- ~ 3:36 min
- 82% aerobic, 18% anaerobic

Byrnes & Kearney (1997)

1. The Energetic Demands

Men's K1 event	Speed (m/sec)	Stroke Rate	%VO_2max	[Lactate] (mM/L)
200 m	5.71	150	~ 75 %	10
500 m	5.21	135	~ 90 %	14
1,000 m	4.63	120	~ 100 %	14

2. The Athletes

- Profiles of the 200 m specialist not yet established
- Tendency for greater mesomorphy (muscularity), strength and power, anaerobic capacity ... and perhaps shorter stature
- 200 m performance correlated with:
  - upper body dimensions
  - muscular strength and power
  - anaerobic power and capacity
- Chest circumference, humeral breadth, Wingate peak power and Wingate total work account for **71%** of variance in 200 m time

van Someren & Howatson (2008)

3. The Training

1. Focus on speed and speed endurance
2. Increased gym-based training
    - maximum strength and power, rate of force development
3. On-water resistance training – ‘bungee sessions’
    - speed endurance and endurance
4. All year-round speed training
5. Reduced cumulative stress and fatigue during off-season
6. Importance of monitoring of neuromuscular fatigue

4. So What Have we Learnt?

Specific training required for specific demands of event – polarisation of 200 m and 1,000 m events

Interval training effectively develops VO_2max

Risk of slowing down the 'sprinters' with winter training!

Speed training is hard work!

'Bungee' work can increase specificity of distance work

5. And What do We Still Need to Learn?

Transferability of gym-based resistance training?

What will the 200 m 'specialist' look like?

Differentiation between 500 m and 200 m for women?

How different are the demands of crew boat racing?

The demands of Paracanoe disciplines?

Take Home Messages for Rowing Coaches ?

1. High intensity interval training is a potent stimulus for improving VO_2max
2. There may be ways to manipulate off-season distance training to increase motor unit recruitment
3. Different boat speeds and stroke rates may have significant implications for training specialisation
4. Importance of muscle shortening velocity

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