

News

- ☺ Race analysis on mini-regatta of the National Team was conducted in Penrith on the 4th of July. Two sessions of biomech. testing on men's' eight were done the next day.



Biomech. testing of M8+ in Penrith on 05/07/2001

- ☺ Testing of M4- and M1x of Junior Team was conducted on lake Barrington in Tasmania on 18-19/07/2001.

Facts. Did You Know That...

- ✓ ...the average difference in boat speed of the medallists during the Sydney Olympics was less than **1%**. It is interesting that the speed of 7th and 8th places in finals B was faster than the speed of 5th and 6th places in finals A.

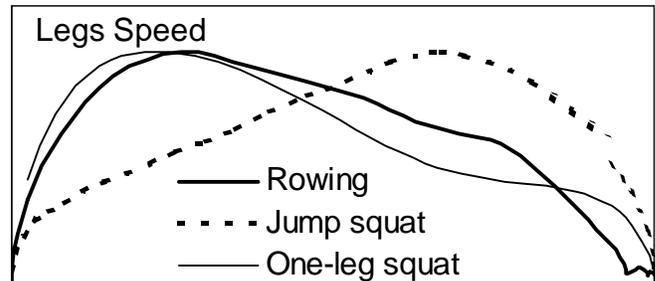
Place	1	2	3	4	5	6
Speed to 1 st (%)	100	99.61	99.30	98.76	97.90	97.17
Diff. from 1st (%)	0.00	0.39	0.70	1.24	2.10	2.83
Place	7	8	9	10	11	12
Speed to 1st (%)	98.53	98.16	97.35	97.17	97.14	94.91
Diff. from 1st (%)	1.47	1.84	2.65	2.83	2.86	5.09

- ✓ ... shape of force curve correlates with the blade propulsive efficiency (1). If we take the ratio of average to maximal force as a measure of the force curve profile, then increasing this parameter from 50% to 55% (towards more rectangular shape) could raise blade propulsive efficiency from 80% up to 83%. This is equates to a gain of about **1%** of boat speed or 3.5 sec on a 2000m race;
- ✓ ...shorter drive time and lower rhythm (ratio of the drive time to the total cycle time) could cause decreasing of boat speed fluctuations and eliminate some energy losses (1). For example,

shortening of the drive time from 1.0 down to 0.9 sec would reduce variation of boat speed by 3% and increase its average value by about **1%**.

Ideas. What if...

- ? ...you use high-speed trunk drills on a more regular basis? Though, the trunk is not the most powerful body segment (the legs are), it connects legs with arms and plays a key role in drive action. Also, trunk back muscles are very slow by nature because in humans they are intended for posture maintenance and not for jumping and throwing like legs and arms. Using a quarter-slide drill with long and fast trunk work during warm-up could increase speed limit of trunk muscles and improve connection between the main body segments in full-length rowing;
- ? ...you think a bit more about similarity of out-of-water strength training parameters with on-water rowing. If we want to achieve a good transfer of the strength from the gym to the boat, then the most important rule is similarity of speed profile. Here is an example of typical legs speed profiles in rowing and in some strength exercises:



Obviously, one-leg squat, when you use the other leg for initial acceleration, looks much more similar to rowing than normal squat or jump-squat.

References

- 1. Kleshnev V., 1998, Estimation of Biomechanical Parameters and Propulsive Efficiency in Rowing. Unpublished.

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