

Performance Engineering for Performance Athletes

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uk sport

world class success

Background

- Government's elite sport agency
- Invests around £100 million of public funds each year, from the National Lottery, Exchequer and private sponsorship scheme, Team 2012.
- Accountable to the Department for Culture, Media and Sport (DCMS)
- Based in London, it employs around 90 staff

UK Sport, Sport England, Youth Sport Trust



Core Responsibilities



Performance

Invest
Evaluate
Solutions



Events

Bid
Support

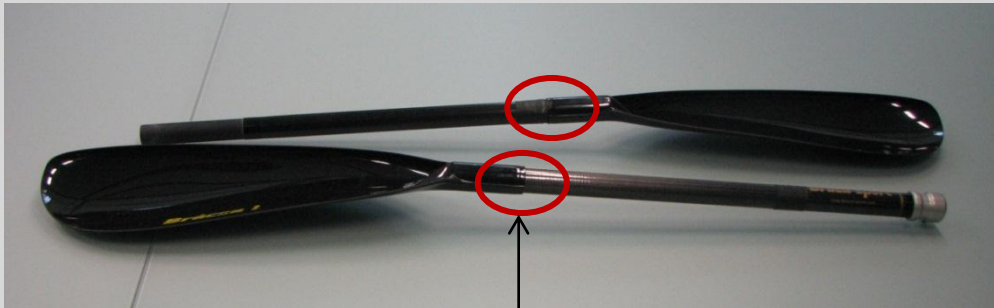


International

Influence
Development

A background image of a female judo athlete in a white gi, holding a wooden bokko (training stick) horizontally across her shoulders. The image is semi-transparent and overlaid with a blue tint.

Research & Innovation



Force measurement



Athlete and boat monitoring



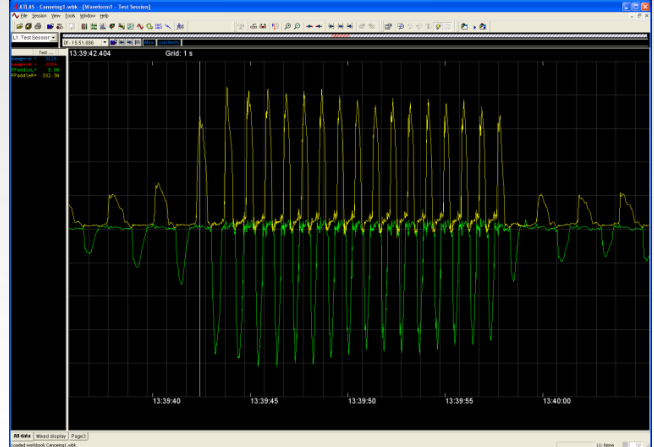
Receiver/transmitter inside shaft

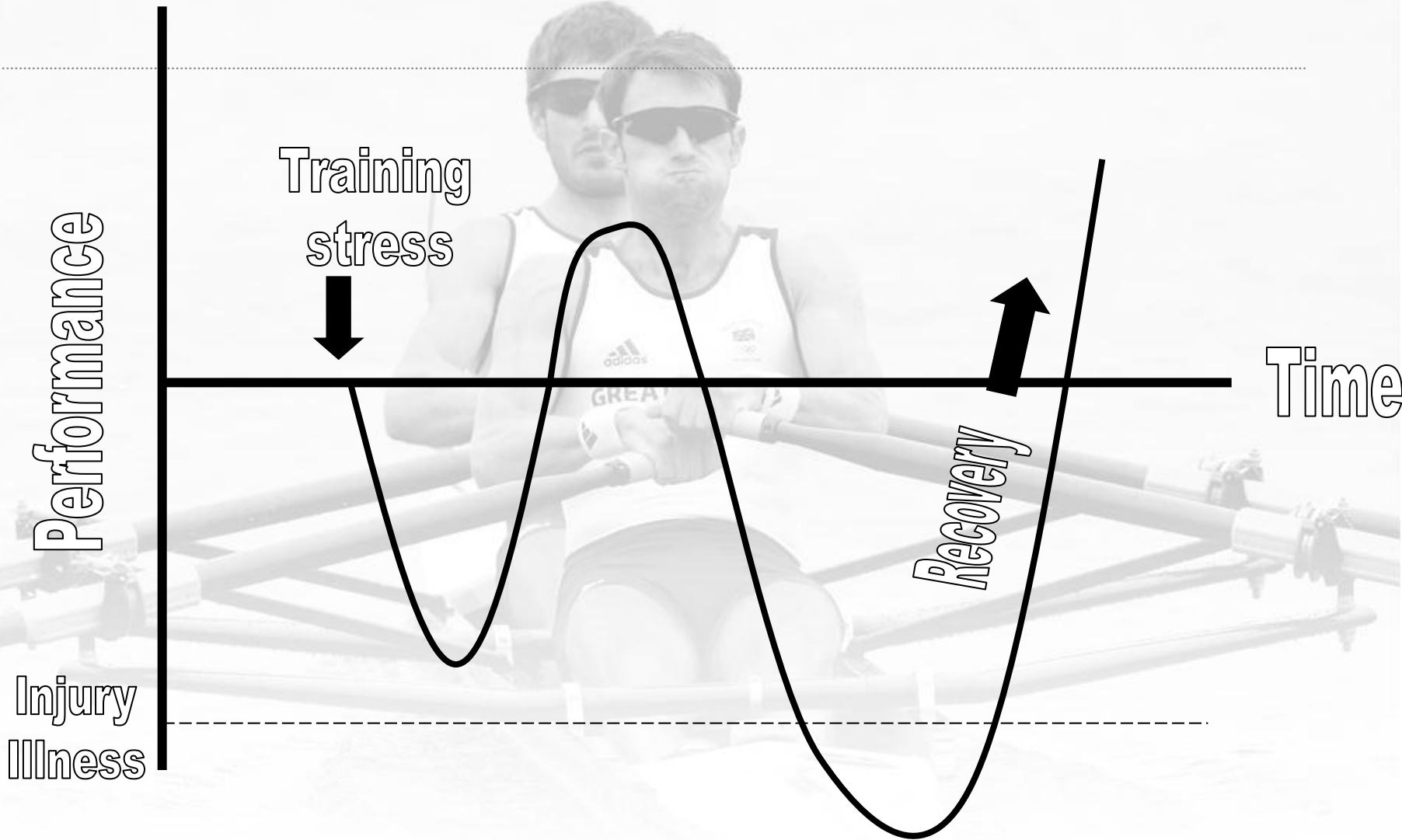


Wireless integration

Instrumentation

Performance data analysis



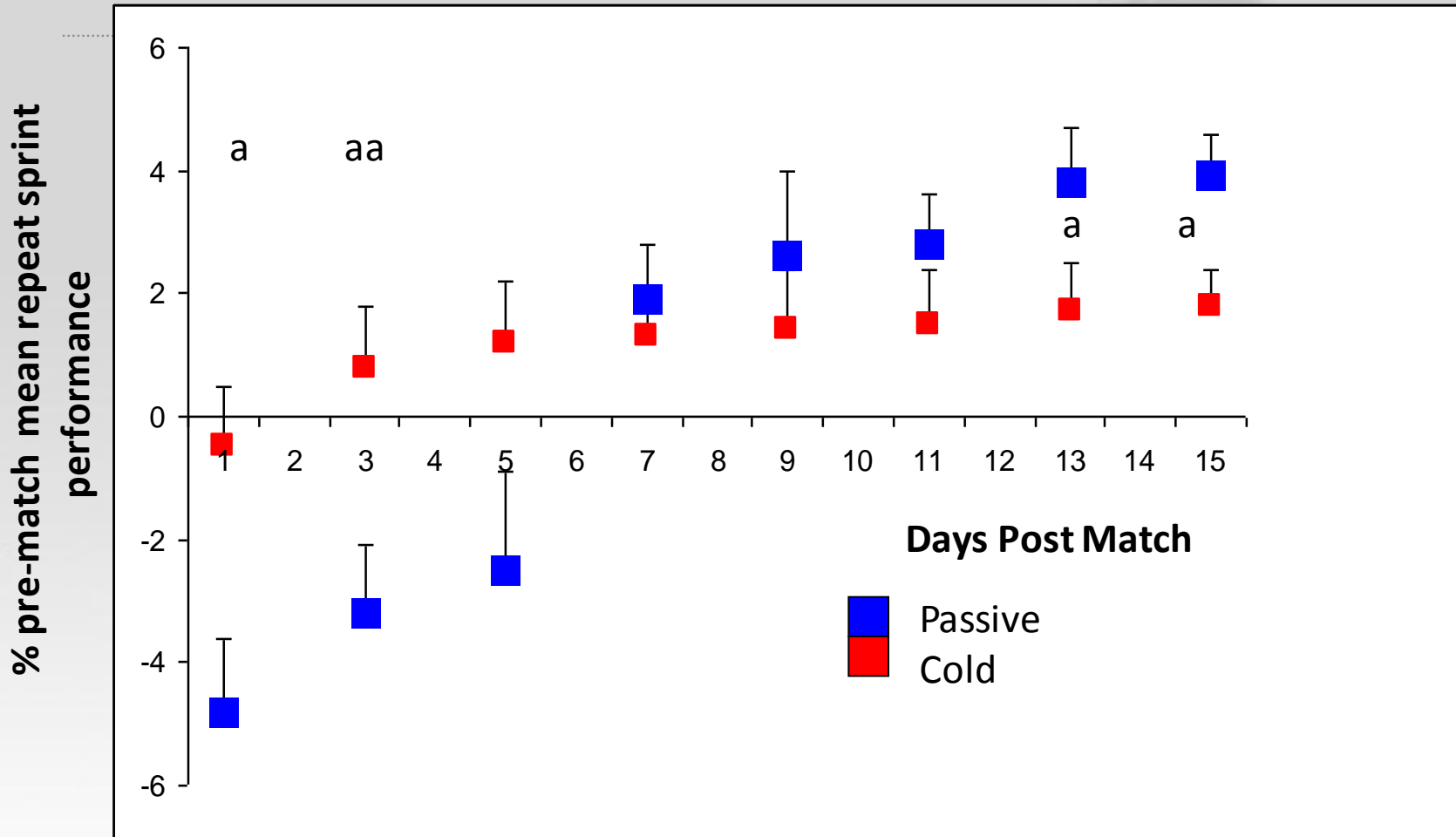


Injury
Illness

Time



Change over 15 days post-match – single cold immersion versus passive recovery



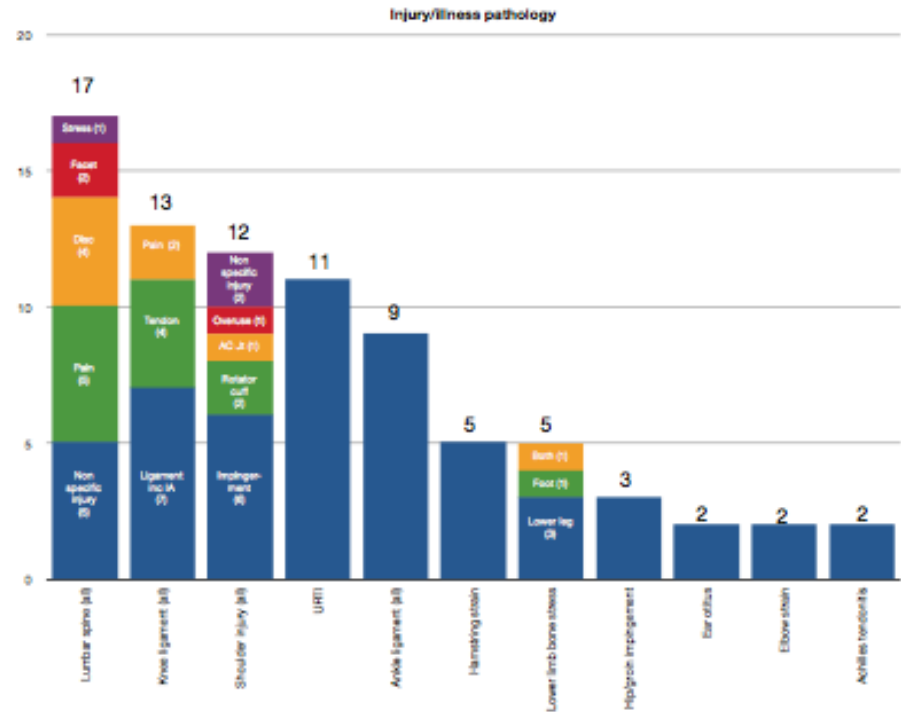
a: $p < 0.05$ cmp to other treatment

Injury & illness in Great Britain Sport

Olympiad review August 2009

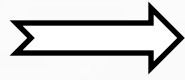


Figure 3

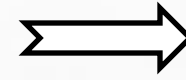




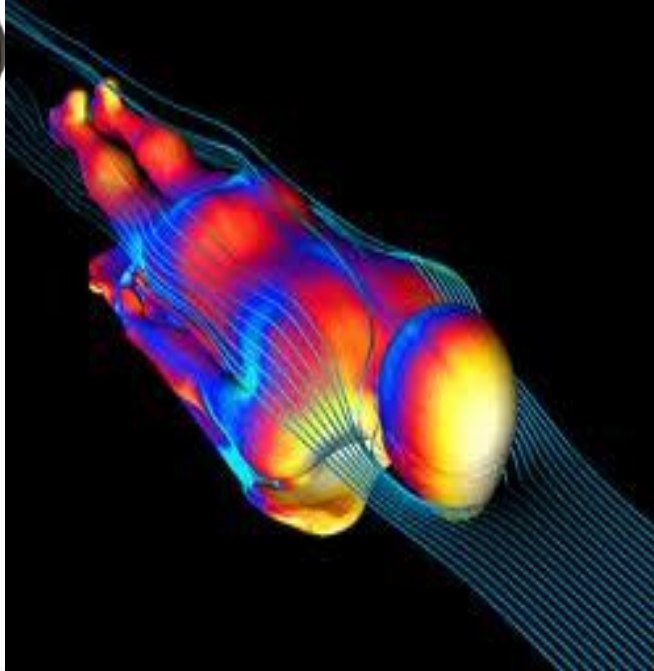
Laser scanning



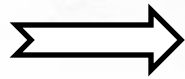
Model development



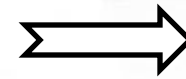
Super HPC Interventions



Day 1

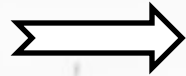


Day 4

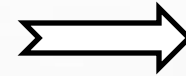


Day 7

Rapid prototype



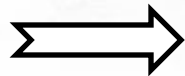
Lab testing



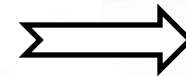
'Field testing'



Day 8



Day 10



Day 14





Why do we need innovative equipment?

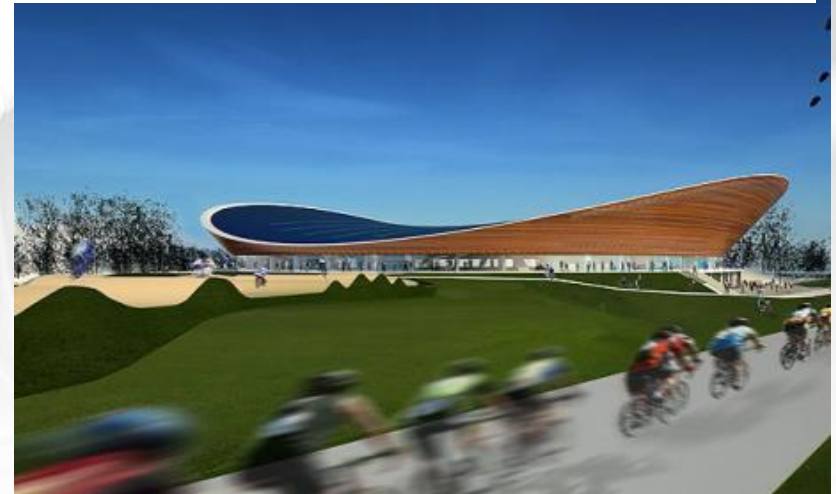
The image is a composite. The top half shows a cyclist in a white and blue jersey with a blue helmet, celebrating with his right arm raised. The bottom half shows a close-up of a track bicycle's frame and wheels. A black banner with white text is overlaid across the middle, and a gold-bordered oval contains text in the bottom right corner.

Winning margins from Beijing 2008

**0.15
SECONDS**
David Weir
won the 800m
0.15 seconds ahead
of Kurt Fearnley
of Australia



79 days to the London 2012 Summer Olympic Games
112 days to the London 2012 Summer Paralympic Games



A blue-tinted photograph of wheelchair basketball players in action on a court. The players are wearing white jerseys with dark numbers. The background is a solid blue color with a white dotted line running horizontally across the middle.

Wheelchair Basketball

Background



Player / Seat Interaction



Player



Chair

Player



Seat



Chair



Rules – Article 3.1.5, Seat/Cushion Height

The maximum height from the floor to the top of the cushion, when a cushion is used, or the top of the seat platform, when a cushion is not used must not exceed:

63 cm (for players 1.0-3.0)
58 cm (for players 3.5-4.5)



A background image of a female cyclist in a white and red jersey, holding a long pole horizontally across her shoulders. The image is semi-transparent and overlaid with a blue tint. The word "Cycling" is written in large white letters across the center of the image.

Cycling







Clothing



Murphy's Law



The Rules...

