

The 'Pathway'

?? Participation, Competition, High Performance ??

- Participation: Club group, wide base?
- Competition: Domestic Racing?
 - Local Regattas
 - Regional Championships
 - British Indoor Rowing Championships
 - National Schools/National Championships
- High Performance: GB Trials ??

SIEMENS

Aims of GB Rowing?

- Specific Role: Performance Success
- To provide rowers to the (U23 and) Senior Teams
- To be the most successful Rowing Nation
- To be as high up the Medal Tables as possible
- To send as full team as possible
- To educate as many rowers as possible in the sport of Rowing – 'Traditional' Route

SIEMENS



GB/France Match

- J16 Match – used to be Anglo/French Match
- In past = North + South Teams
- GB = Domestic and International J16s
- Club combinations (except the VIII)
- Became GB Event in 2001
- Team event
- Always full team:
 - JM: 8+, 4+, 4-, 2-, 4x, 2x, 1x, sp 1x (28)
 - JW: 8+, 4-, 2-, 4x, 2x, 1x, sp 1x (23)



Coupe de la Jeunesse

- 1985 = First event
- Team Event over two days
- 12 member Nations
- 2010 > 350 Juniors racing
- GB have won the overall event 11 times
(France: 8 times; Italy: 7 times)
- Team event
- Always 'full team' from GB:
 - JM: 8+, 4+, 4-, 2-, 4x, 2x, 1x, spare (23)
 - JW: 4-, 2-, (8+), 4x, 2x, 1x, spare (14)



World Junior Championships

- Pre 1985 = FISA Junior Regatta
- 1985 → = World Rowing Junior Championships
- 2011
 - 47 Nations
 - 13 Events
 - 199 Entries
 - 581 Competitors
- Team selected according to performance
- Max. team size:
 - JM: 18 + 7 (8+, 4+, 4-, 2-, 4x, 2x, 1x)
 - JW: 14 + 7 (8+, 4-, 2-, 4x, 2x, 1x)



World U23 Championships

- Pre 1992 = Seniors Match, 1992 - 2005 = Nations Cup
- 2006 → = World Rowing U23 Championships
- 2011
 - 63 Nations
 - 21 Events
- Team selected according to performance
- Max. team size:
 - Men: 18 + 7 + 13 (8+,4+,4-,2-; 4x,2x,1x; 4-,2-,4x,2x,1x)
 - Women: 14 + 7 + 7 (8+,4-,2-; 4x,2x,1x; 4x,2x,1x)



The GB Trials Procedure

Juniors

October

- Registration
- 2k Ergo @ r.24
- JM 6:55
- JW 7:50

U23s

October

- 2k Ergo (free rate)
- Men 6:20
- Women 7:15
- Lwt Men 6:40
- Lwt Women 7:38
- U20s = no cut-off

LD Trial: Boston, 1x



The GB Trials Procedure

Juniors

November

- LD Trial @ Boston, 1x (Max r.28)

U23s

November

- Mens Sculling Test @ Caversham



The GB Trials Procedure

Juniors

December

- 5k ergo @ r.26
- Nantes Training Camp

U23s

December

- 5k ergo
- LD Trial @ Boston 1x,2-



The GB Trials Procedure

Juniors

February

- 5k ergo @ r.26
- LD Trial @ Boston
- Sat: JW 1x; JM 1x,2-
- Sun: JW 2x,2-; JM 2x,2-

U23s

February

- 2k ergo
- LD Trial @ Boston 1x, 2-



The GB Trials Procedure

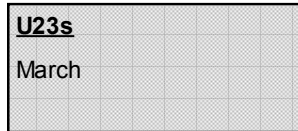
Juniors

March

- 2k ergo free rate
- Spring Assessments

U23s

March



The GB Trials Procedure

Juniors

April

- Dorney Trial:
1x, 2-

U23s

April

- Final Trials (Closed)
1x, 2-
- Crew Formation



The GB Trials Procedure

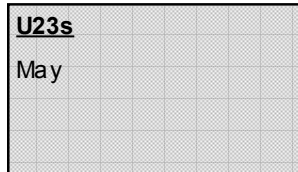
Juniors

May

- Munich International Regatta

U23s

May



The GB Trials Procedure

Juniors

July

- HRR
- Final Trials
- Coupe

U23s

July

- HRR
- Seat Racing
- U23 Champs



What are Final Trials?

“An interrelated sequence of highly anaerobic, lactate-generating, espraneous, trambolent contentions, wherin those most frequently triumphant are assessed by reference to a coefficient of statistical digitisation.”

“Totally rigged and totally unfair. Thrust just puts in who he wants”
Talk Rowing !



The GB Trials Procedure

Juniors

Aug
> JWC

U23s

Aug

Developing the Rower

- 4-6 Years as a Junior
- 4 years as an U23
- 8-12 years as a Senior International

Therefore the Development Years count for 40% -50% of an Elite rowers rowing career, is this significant ?

Developing the Rower

Senior Team 2011 (inc spares)	Total	Rowed at JWC	% JWC	Rowed at U23s	% U23	U23 or Junior Medal	% U23 or Junior Medal
M	24	11	45.8%	18	75.0%	12	50.0%
W	19	7	36.8%	16	84.2%	15	78.9%
LM	9	3	33.3%	8	88.9%	5	55.6%
LW	7	1	14.3%	4	57.1%	3	42.9%
			32.6%		76.3%		56.8%

Transition Junior to Senior

What happens post Juniors?

- After Junior, for 4 yrs you are a senior with the opportunity to race in an age group category
- Part of the Olympic pathway
- Follow the senior trials process until April

Transition Junior to Senior

Opportunities

- More Boat classes (21 at U23 World Champs)
- Lightweights
- Opp. For fastest 1x and 2- from trials to race at U23s = opp. for coaches as well
- Never too young
- 4 years to develop their performance profile
- Can be done while still at School ?
- Rio 2016 !!

Transition Junior to Senior

A Few Challenges

- Too much time off in the summer months
- Motivation? 19 yrs old and racing 28 yr olds
- Gap Year and starting university – Drop off in Performances
- University, freedom and other ‘distractions’
- The training load increases ?

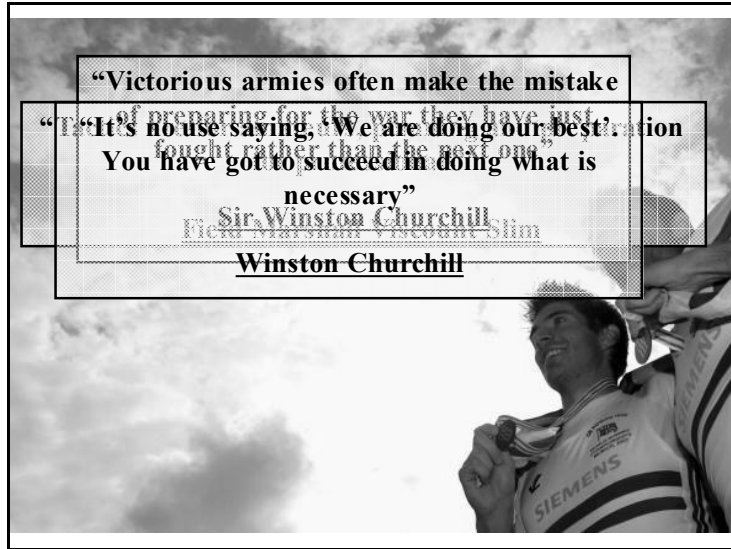
U23 Team 2011

2011	1st Year	2nd Year	3rd Year	4th Year	Totals
M	1	8	5	7	21
W	0	5	1	5	11
LM	2	1	4	4	11
LW	0	2	2	1	5
% of Team	6.25%	33.33%	25.00%	35.42%	48
JWC 2010	2				
At school	0				

**Success Factors
in GB Rowing**



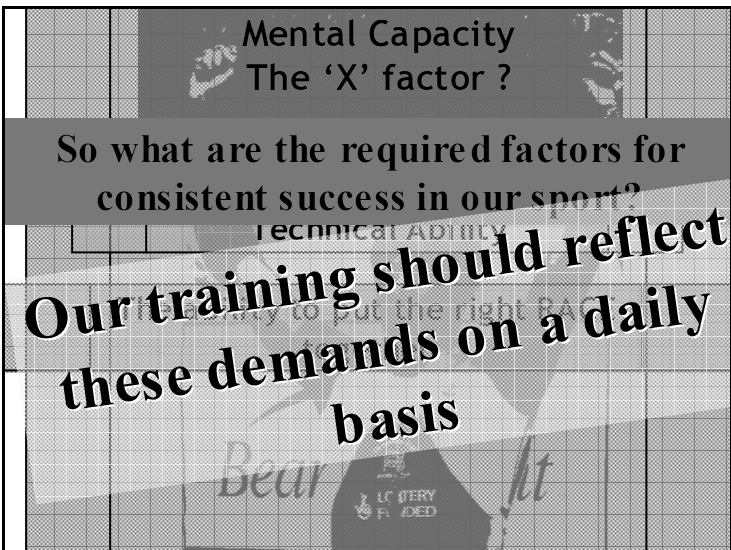
“Victorious armies often make the mistake of preparing for the war they have just fought, rather than the next one.”
 “It’s no use saying, ‘We are doing our best’. You have got to succeed in doing what is necessary”
 Sir Winston Churchill
 Winston Churchill



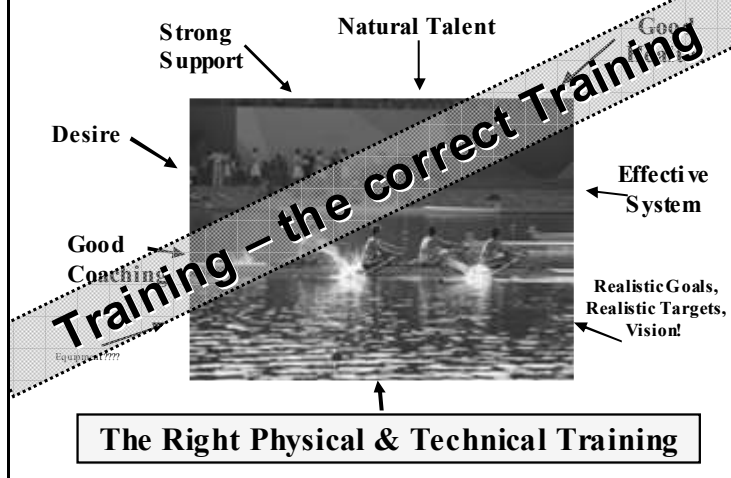
Mental Capacity
The ‘X’ factor ?

So what are the required factors for consistent success in our sport?

Our training should reflect these demands on a daily basis



What is required to be successful?





World Rowing Championships

- Always train how you want to race
 - To be successful requires the ability to perform consistently in a series of races in *any* conditions (Champs are often Heat - Rep - Semi - Final)
 - It requires the ability to make each race a progression of the last - So every training session must be a progression of the last.
 - Every race is COMPLETELY different!
 - You need to be prepared to show your best in the heat. Mentally the toughest race! Always Start at the highest level.
 - Semi Finals have the toughest racing. You need to be of ~ medal standard for FA. You cannot afford to get this race wrong!
 - When you are not racing (ie Reps/SF) the regatta moves on. Your next race is two steps.
- If you save something for the end you might be able to win a medal - but not a Gold medal!
- The bigger the boat, the more the second 500m counts!
- At 1000m, in the Small boats especially, the race starts again
- World Championship races can develop very late. The last stroke counts.
- *Starts are important....*

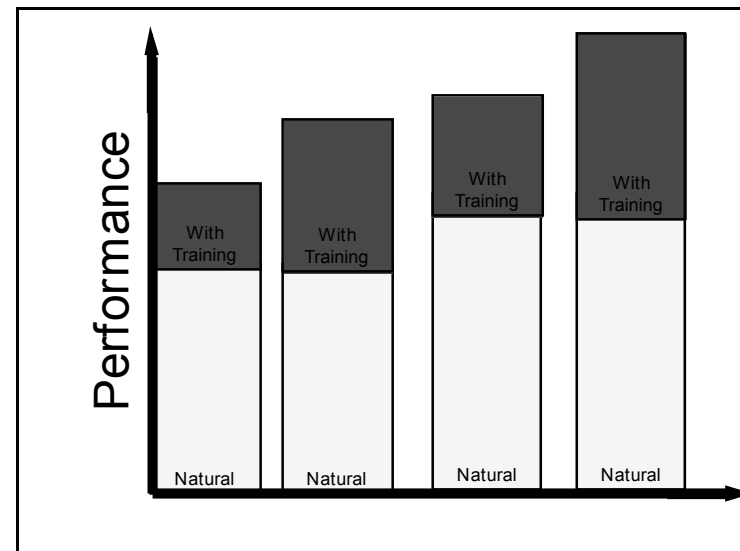


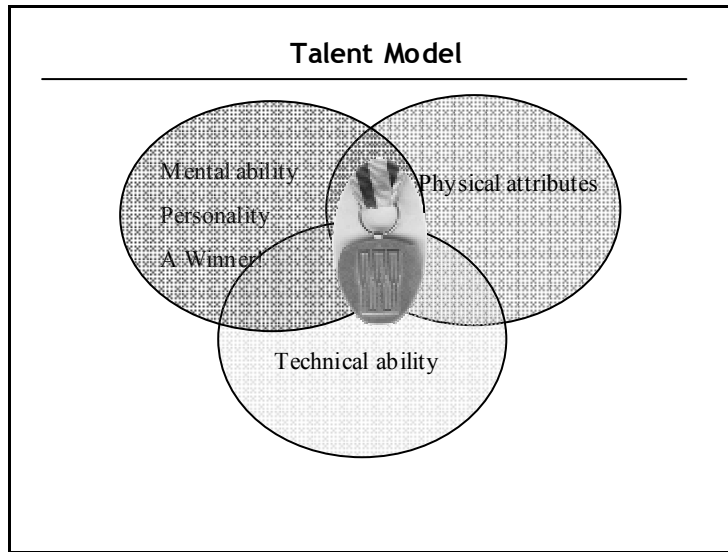
The skills involved in Rowing are simple and basic?



ROWING The Physiological Backcloth

- Rowing = High Force + Low Rate \Rightarrow therefore it is necessary to develop a high degree of muscular strength.
- Any Pacing strategy probably more down to physiological factors than psychological factors, therefore negating the use of 'tactics' on race day.....unless they have been developed.
- Ultimately this is a lung limited sport.





Training makes Champions!

The WINNER is not *necessarily* the person who trains the hardest BUT the person that trains the best!!!

If a group of Rowers complete the same session,
and do the same 'Training'/'Work'

Who will get the most from the session?

Your training adaptation comes from your **RECOVERY!**

Recovery is the part of the programme that YOU own!

Coaches supervise the Training

Athletes supervise the Recovery (?)

Do you think you can get high class performance through high class training?

And without high class recovery ?

Recovery and Health

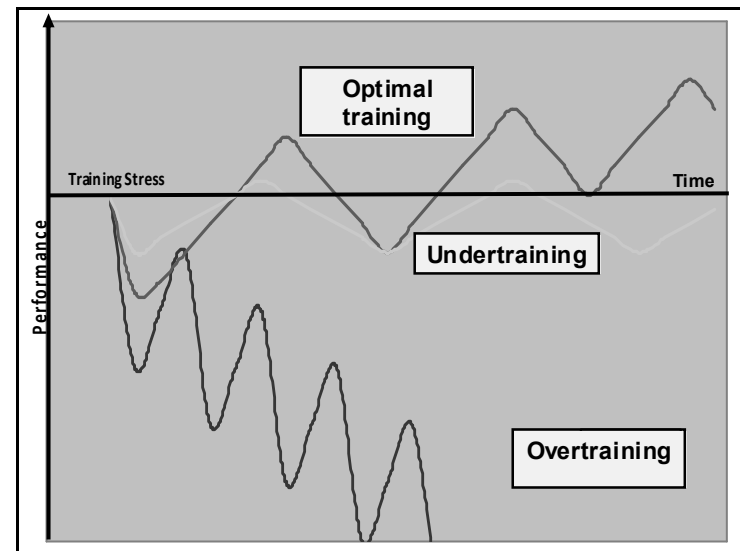
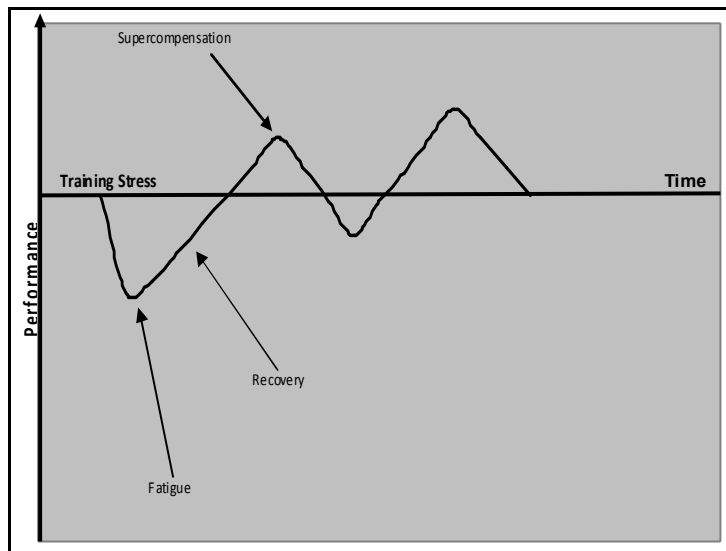
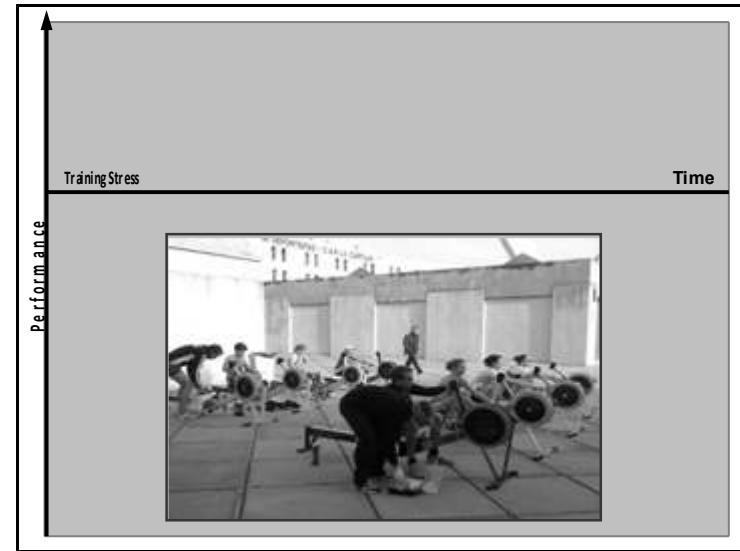
Simple personal hygiene precautions:

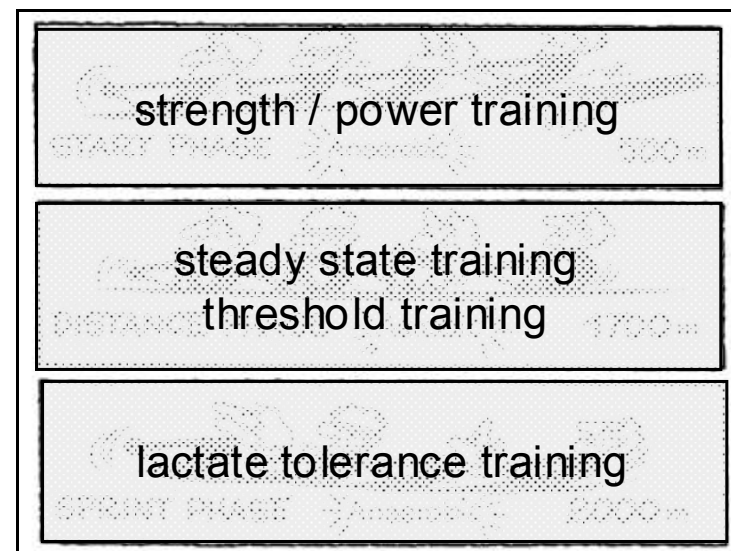
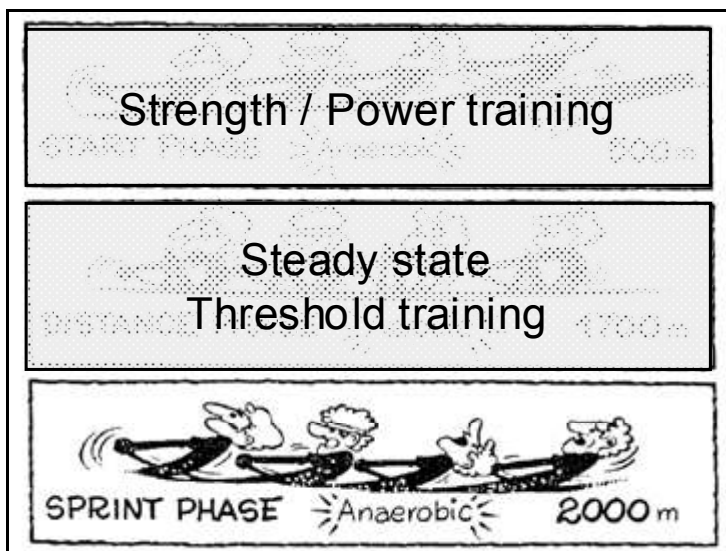
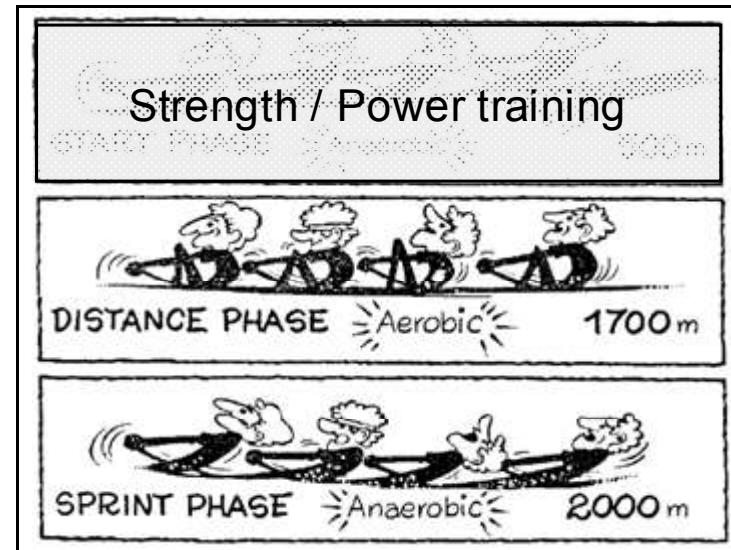
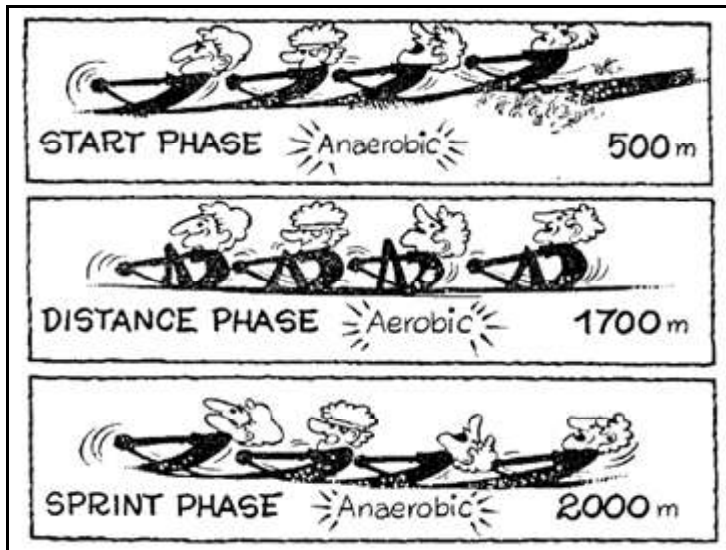
- Wash hands frequently
- avoid infectious people



Illness and injury happen with normal people and are more likely with those operating at the edge of the body's ability.

Deal with things honestly and effectively.

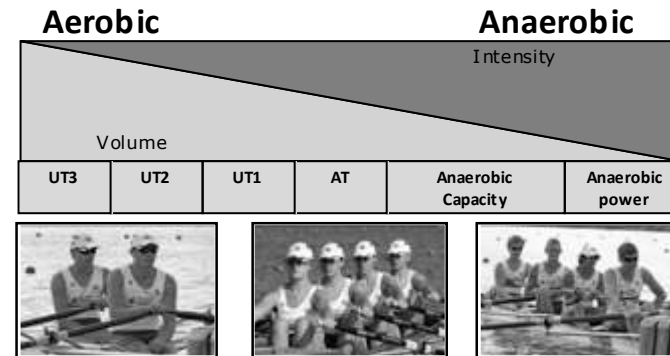




Training Matrix

TRAINING ZONE	% HEART RATE RESERVE	BLOOD LACTATE (mmol/l)	STROKE RATE	% ARA GOLD TIME	KEY PHYSIOLOGICAL ADAPTATION	SAMPLE SESSION
UT3 Fuel Utilisation Training	<59%	<1.0	<18	<70	* Increased fat utilisation * More mitochondria, aerobic enzymes & capillarisation	>120' Low intensity
UT2 Basic Oxygen Utilisation Training	59-67%	<2.0	17-18	70-76	* Increased glycogen stores * More mitochondria, aerobic enzymes & capillarisation	70-100' Low intensity
UT1 Oxygen Utilisation Training	67-75%	2.0 - 4.0	19-23	77-82	* More mitochondria, aerobic enzymes & capillarisation * Greater fibre recruitment	2-3x20-30' 4-8x8-10'
AT Anaerobic Threshold Training	75-85%	~4.0	24-28	82-86	* Improved aerobic efficiency * Improved lactate clearance	2-4 x 8-10' 1-2 x 15-20' 1 x 30'
TR Oxygen Transport Training	85-100%	4.0 - 8.0	28-36	87-95	* Improved oxygen carrying capacity * Increased oxidative capacity of muscle fibres	3-6 x 3-5'
AC Anaerobic Capacity Training		~8.0 +	>36	>95	* Improved glycolytic capacity * Ability to tolerate metabolic acidosis	4-8x250m 2-4x500m 1-2x1000m
AP Anaerobic Power Training			>26	>95	* Improved neuromuscular recruitment patterns * Improved rates of force production	10-20x10-15 power strokes

The Energy Continuum



Fuel Utilisation Training (UT1, UT2, UT3)

- Training the **aerobic** energy system
- 60-75% HR max
- **GOAL:** Improve the body's ability to utilise O₂ delivered to the muscles via the bloodstream. Enhance fat oxidation at lower intensities.

MAJOR ADAPTATIONS :

- ↑ the number of capillaries and mitochondria surrounding the muscle
- ↑ aerobic enzyme activity
- ↑ blood volume and the concentration of myoglobin

Endurance Training

- GB senior mens squad:
~ 200km/week
- Technical development
- Low cadence / high force
- DPS – **transfer to higher rates**
- **Dependent on training load**

Basic Oxygen Utilisation Training (UT3)

- Physiological adaptations
- E.g. >120 min - low intensity
- <R18
- <60% max HR (~120bpm)

Sunday afternoon 'Assisted Drifting' ?

Basic Oxygen Utilisation Training (UT2)

- Physiological adaptations
- E.g. 70-120 min - low intensity
- ~R18
- 60-70% max HR (120-140bpm)

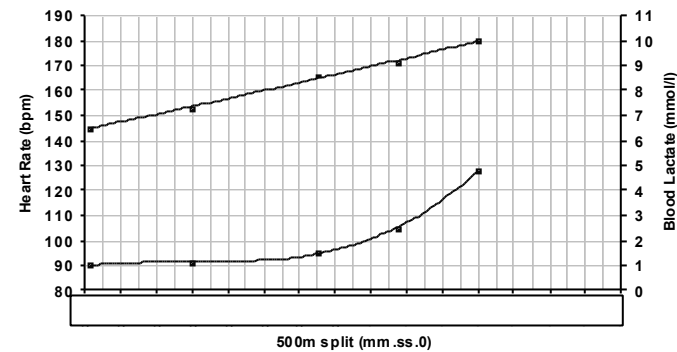
'Functional Paddling' ?

Oxygen Utilisation Training (UT1)

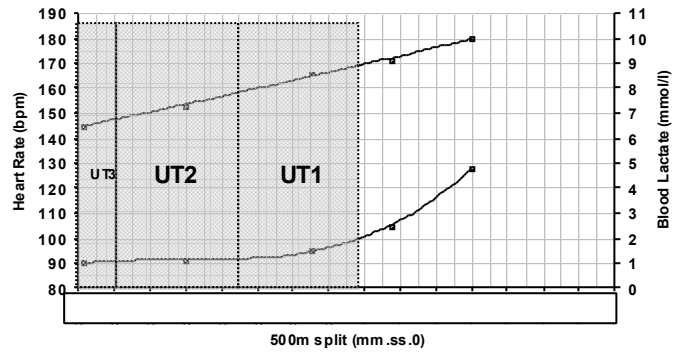
- Physiological adaptations
- E.g. 2-3 x 20-30 min. Mid intensity
- R19-23
- 70-75% max HR (~140-150bpm)

'Controlled Work' ?

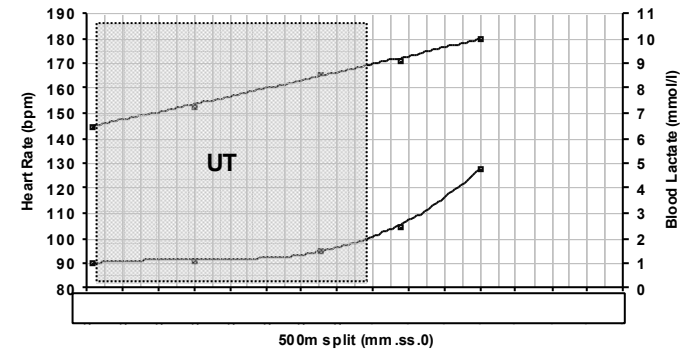
Training zones



Training zones



Training zones

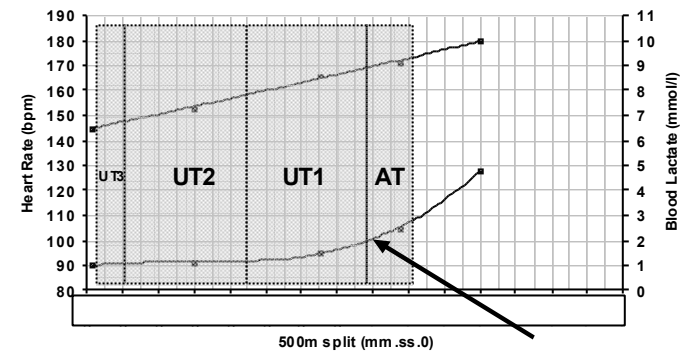


Anaerobic Threshold Training (AT)

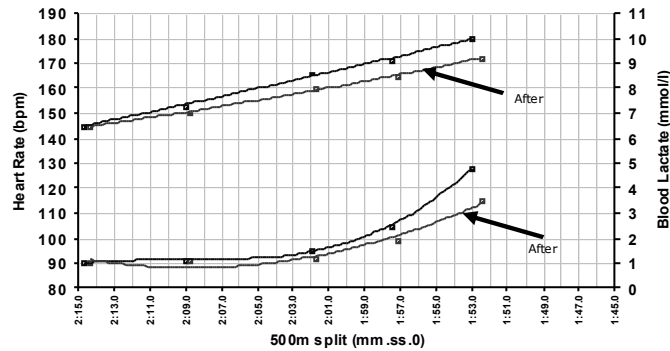
- Physiological adaptations
- 2-4 x 8-10', 1-2 x 15', 1 x 30' higher intensity
- <R28
- 75-85% max HR (~160-180bpm)

'Solid & Paced' ?

Training zones



Training zones



Steady-state Training: Key Messages

- Long-term development
- >25' consistent work
- Majority of weekly mileage
- Maintain throughout season
- UT2 specific
 - An indefinite workload
 - Functional training
 - **Extra-session**

Balancing training

- **Aerobic** adaptations take longer to develop, but are more persistent
- **Anaerobic** adaptations can be gained and lost rapidly
- This should be reflected in the balance of training;
 - In one week
 - In a season
 - Across several seasons

Endurance Training

On the Water

Doing **UT (Steady State)** properly!

On the Ergo

Train how you want to race.

Get the intensity right.

Skills - Practice makes

Standardising monitored sessions

& record keeping.

Do NOT de-train technical skill.

Monitoring Training

- Blood Lactate
- HR
- RPE →
- Split / Rate
- Technique
- Duration
- Observation / Communication

Rating of Perceived Exertion (RPE)	
6	No exertion at all
7	
8	Extremely light
9	Very light
10	
11	Light
12	
13	Somewhat hard
14	
15	Hard (heavy)
16	
17	Very hard
18	
19	Extremely hard
20	Maximal exertion

We spent the whole war looking for the magic technological bullet. We never found it. Battles continued to be won or lost on the basic fighting ability and courage of the man on the ground.

General William Westmoreland 'A Soldier Reports' (Vietnam Memoirs) 1981

LIFESTYLE / PSYCHOLOGICAL FACTORS IN SUCCESS

Observation of the JUNIOR/U23 Medallists

- Self-disciplined and organised. Able to balance/prioritise a high volume and quality of training with academic/work and social pressures.
- Able to take responsibility for their health, well-being and recovery.
- Able to set and maintain high standards, especially over and above those set and practised by others around them.
- Able to deliver when it really matters and produce performances on the day that can surprise even them!
- An ability to balance their international aspirations with their club/school programmes

An unrelenting, defiant and resolute self-belief that they can succeed in their dreams. This can make them CHALLENGING to work with!

GB ROWING TEAM 

Richard Boulton
Lead Coach, Juniors

GB Rowing Team

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