No: 1001- 8-2005

OXYRICH
&
OXYSHOT

RESEARCH BULLETIN

No: 1001- 8-2005

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The following is an extract from research conducted in July 2005 by

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In collaboration with Associate Professor Steve Selig, Department of Human Movement, Performance and Recreation, Victoria University, Footscray Park Campus, Melbourne, Australia.

The samples include a male and female triathlete. These examples demonstrate the physical performance enhancement that can be achieved by using the liquid oxygen supplement “Sports OxyShot” (which contains 150,000 parts per million of dissolved stabilised oxygen).

The dosage was 15 ml, taken orally each morning for 7 days prior to testing, followed by 7 days on 15 ml of dummy (placebo) product, before re-testing.

The study was a double blind crossover placebo trial, which meant that neither the athletes nor the research team knew which of the two trials included the Sports Oxyshot product.

SENSATIONAL TIMES, EVEN IN TRAINING

Research Data for subject Mr. CH (a 23 year old elite triathlete) shows that the athlete can turnover more oxygen and provide a higher workrate of approximately 6.1% at the an-aerobic threshold (4 mmol of whole blood lactate) during the bicycle ergometer work trial following the use of the Sports OxyShot (4mnol of blood lactate is the point beyond which fatigue begins to shutdown physical exertion).

In addition, the benefit was seen to transfer across the disciplines (during the 7 day period on Sports Oxyshot), and result in a lifetime personal best time for the 100 metres freestyle of a similar quantum (5-6% faster time).

The times in the pool returned to the slower times during the 7 says on the placebo product (this subject was given the placebo on the second 7 day trial).

Although training during the Sports OxyShot treatment was reported to be completed with less effort and fatigue an increase in exercise heart rate and perceived exertion was reported during the bicycle work trial (to exhaustion) of a margin consistent with the increased work rate.

SPECIAL BENEFITS FOR WOMEN

Data for subject DG (40 year old Female Master Triathlete)

Demonstrates an interesting relationship between the oxygen uptake at the an-aerobic threshold (3.75 increased on Sports OxyShot) and the increased oxygen uptake at the aerobic threshold of 7% (about 100% more benefit at the steady state exercise level).

This higher oxygen uptake (courtesy of Sports Oxyshot) at lower levels of exercise may prove very beneficial to recreational athletes (gym and 'spin class" women) who would relish the corresponding increase in oxygen/calorie expenditure, without having to push super hard to achieve this.

For the serious athlete on race day however the 3.7% increase of oxygen uptake at the an-aerobic threshold would return an improved race time of about 3 minutes per hour!

Over the course of the Foster Ironman this would reduce her previous time of 13 hours by about 33 minutes. Of course, several 'housekeeping' issues would have to be addressed:

1. The Sports Oxyshot supplement would need to be maintained, possibly 10ml per 60 minutes (not with food)
2. As the calorie expenditure is being increased by around 3.7%, this would require more food and water to be consumed, at period not coinciding with the use of the Sports OxyShot.
3. Given the higher perceived exertion and heart rates, only the truly committed athlete will want to continue at such an elevated intensity level. In other words, courage and determination will be rewarded; fortune will in fact favour the brave!

EXPLANATORY NOTES

THE WORK TRIAL

The trial used in a double blind placebo-controlled cross over design.

Subjects were randomly allocated either Oxyshot or Placebo (flat diet tonic water) and given an unlabelled bottle to take a 15 ml shot on each morning in the week prior to testing. Athletes were requested not to train 12 hours prior to each test and to control their diet (i.e. same meals), on the day and morning prior to each test. Exercise tests were conducted one week apart and each subject performed each test at the same time of day for each trial. Testing was conducted in the Human performance laboratory at Victoria University under standardized conditions.

An electromagnetic bicycle ergometer was used to conduct the exercise tests and after a 3 min warm up at 50 watts, subjects completed an incremental exercise test until exhaustion. The test began at 100 watts and was incremented 25 watts every two mins until exhaustion. Metabolic measurements (Oxygen uptake, RER, VE ETC) were measured every 30 secs, heart rate was measured using an ECG and capillarized lactate was measured in the last 15 secs of each workload.

The results are outlined in the following graphs. Figures 3-5 show the blood lactate levels indicated on the vertical axis, and is measured in millimol of whole blood lactate.

The 2 mmol level is referred to as the aerobic threshold, the level at which steady state exercise can be maintained for extended periods (providing that high intensity exercise is not attempted) and reflects the status where oxygen is metabolised within the energy systems at an optimal sustainable level. The 4 mmol level is called the an-aerobic threshold and marks the limit of physical activity where oxygen can be delivered in sufficient quantities to maintain the desired work rate. Beyond the an-aerobic threshold the inability to deliver sufficient oxygen results in the rapid onset of fatigue.

Interpretation notes for figure 1 – 6.

NOTE;

Subject

(a) CH 23 Year old Male Elite Triathlete

(b) DG 40 year old female masters ironman triathlete

Figures 1 + 2	Provide a summary of eleven different parameters and the researchers' observations along with the objective comments of analysis, and general recommendations.
Figure 3	Compares oxygen uptake against blood lactate with clearly a significant increase in the level of oxygen metabolized by 6.1% in the case of the male athlete and 3.7% for the female athlete; during the Sports OxyShot trial versus the placebo trial. It is on the figure (3B) that the 7% increase in oxygen uptake at the aerobic threshold is observed in the female athlete.
Figure 4	Compares power output against blood lactate and shows an increase in power output at the an-aerobic threshold of 3.5% for the male and 2.2% for the female athlete (due to the Sports OxyShot).
Figure 5.	Relates to a corresponding increase in heart rate of 4% for the male and 2.2% for the female athlete consistent with the higher work rates and oxygen uptake.
Figure 6.	Shows the perception of increased intensity felt and reported by the athletes which confirms that 'something' is helping them 'do more work'.
Figure 7.	A one page summary (The results at a glance)

Figure 1A

OxyShot Project
Data Summary

Subject CH Male Elite Under 23 Triathlete
Age 23 yrs
Weight 64.25kg
Skinfold Total (8) 61.2mm
Maximal Data

Parameter	Placebo	OxyShot	Difference
VO2 peak (L/min)	4.90	4.96	+1.3%
VO2 peak Ml/kg/min	76.2	77.2	+1.3%
Peak Power (watts)	389	394	+1.2%
Exercise time to Exhaustion (mins)	28	28	0
Max Heart Rate (bpm)	192	192	
Max Ventilation (L/min)	161	165	+2.4%
Max RER	1.08	1.07	

Comments

1. Small but consistent increase in Oxygen Uptake and power output at 4 mM Lactate threshold (4-6%) and an increased steady state exercise heart rate at 4mM threshold (4%), following treatment with OxyShot (OS). This should translate into improved times during a triathlon (assuming the cycling test is equally applicable to swim and run performances) of around 3 mins/hour during rhe event.
2. During the week the subject consumed the OS a definite improvement was noticed in the swim times. Performance was improved from 1 min 11 secs to 1.107/100m freestyle (which had not previously been achieved), which returned to the slower times during the following week while on placebo. Training was also completed with less effort and fatigue.
3. Surprisingly, during the exercise tests the relative perceived exertion 9RPE) was higher on OS than PL at each of the power outputs.
4. There was minimal increase in peak VO2 and any of the other maximal performance data measured.
5. Recommended training heart rates:

   (a Long slow distance (<2mM Threshold) <135 bpm
   (b Quality aerobic training 145 – 155 bpm
   (c Lactate threshold training (@ 4mM thresh) 155 – 168 bpm
   d) Speed and anaerobic training > 170bpm

6. It was recommended that the skinfold total be reduced to 45 mm and a weight goal of around 62 kg was desirable.

Figure 2A

OxyShot Project
Data Summary

Subject CH

PARAMETER	PL V02* (ml/min)	PL HR (bpm)	PL Power (Watts)	PL RPE	OS V02* (ml/min)	OS HR (bpm)	OS Power (Watts)	OS RPE	PL Vs OS Percent Difference (from V02 data)
Aerobic Threshold 2mM HLa	3050	135	200	8	3050	135	200	8	0
Anaerobic Threshold 4mM HLa	3700	160	283	13	3925	166	293	16	6%
VENT Th 1 (from V02 vs VC02 data)	3650				3650				
VENT Th 2 (from VE vs VC02 data)	4270				4140				

* The measured value has been adjusted form the graph below by a factor of (X 1.09).

Figure 3A

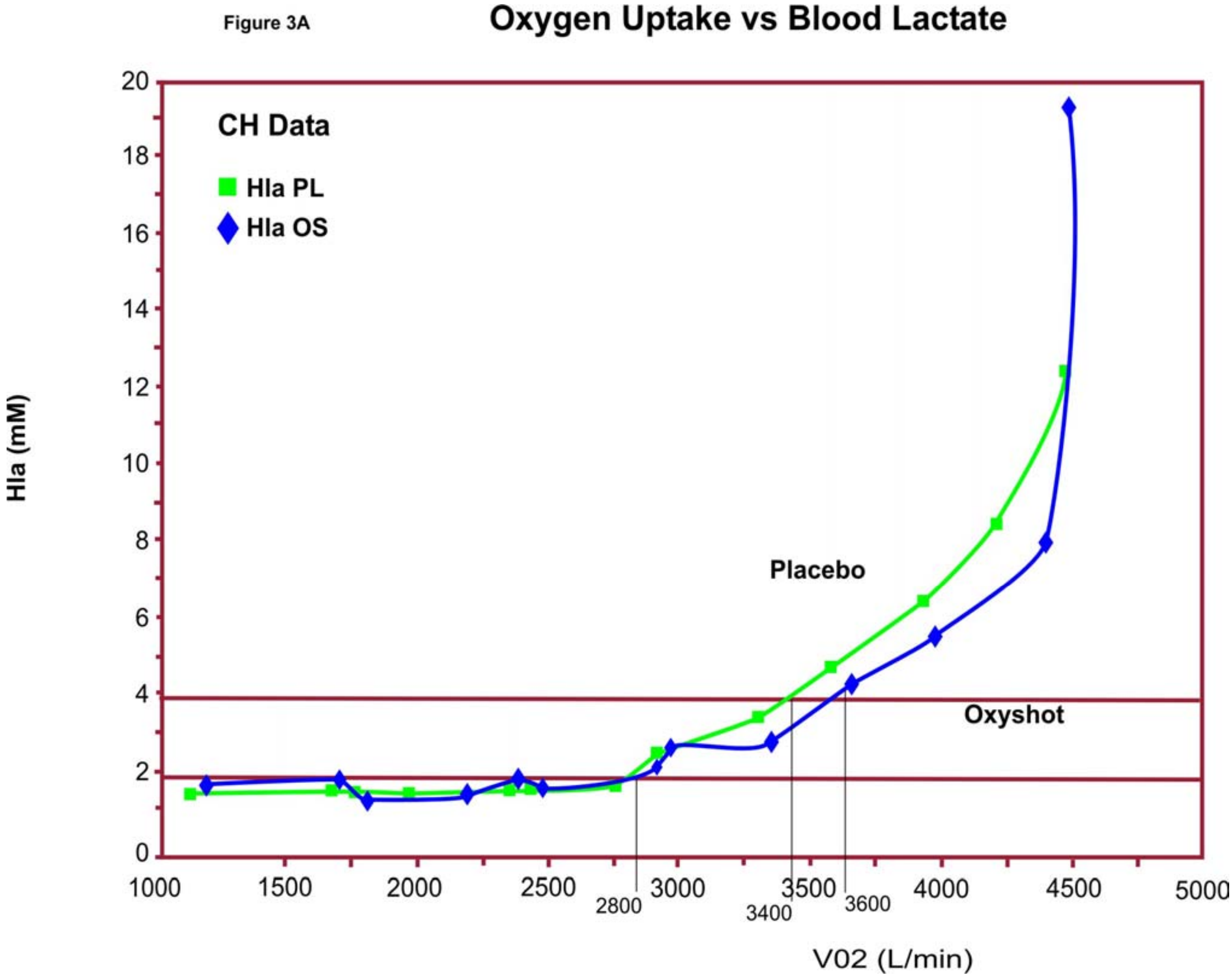

Oxygen Uptake vs Blood Lactate
CH Data
Hla PL
Hla OS
Placebo
Oxyshot
Hla (mM)
V02 (L/min)
0
2
4
6
8
10
12
14
16
18
20
1000
1500
2000
2500
3000
3500
4000
4500
5000
2800
3400
3600

Figure 4A

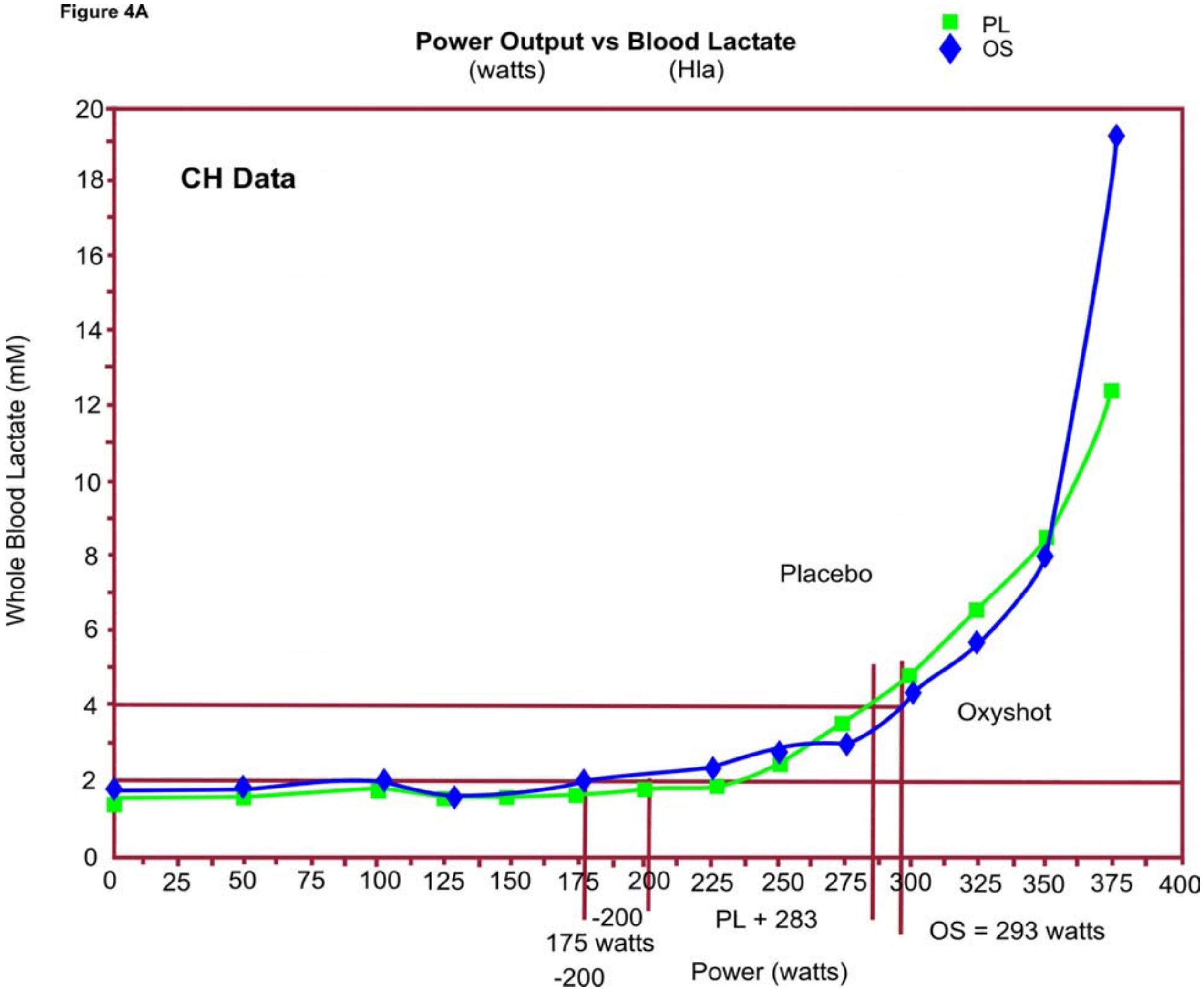

Power Output vs Blood Lactate
(watts) (Hla)
PL
OS
CH Data
Whole Blood Lactate (mM)
20
18
16
14
12
10
8
6
4
2
0
Placebo
Oxyshot
0 25 50 75 100 125 150 175 200 225 250 275 300 325 350 375 400
-200
175 watts
-200
PL + 283
OS = 293 watts
Power (watts)

Figure 5A

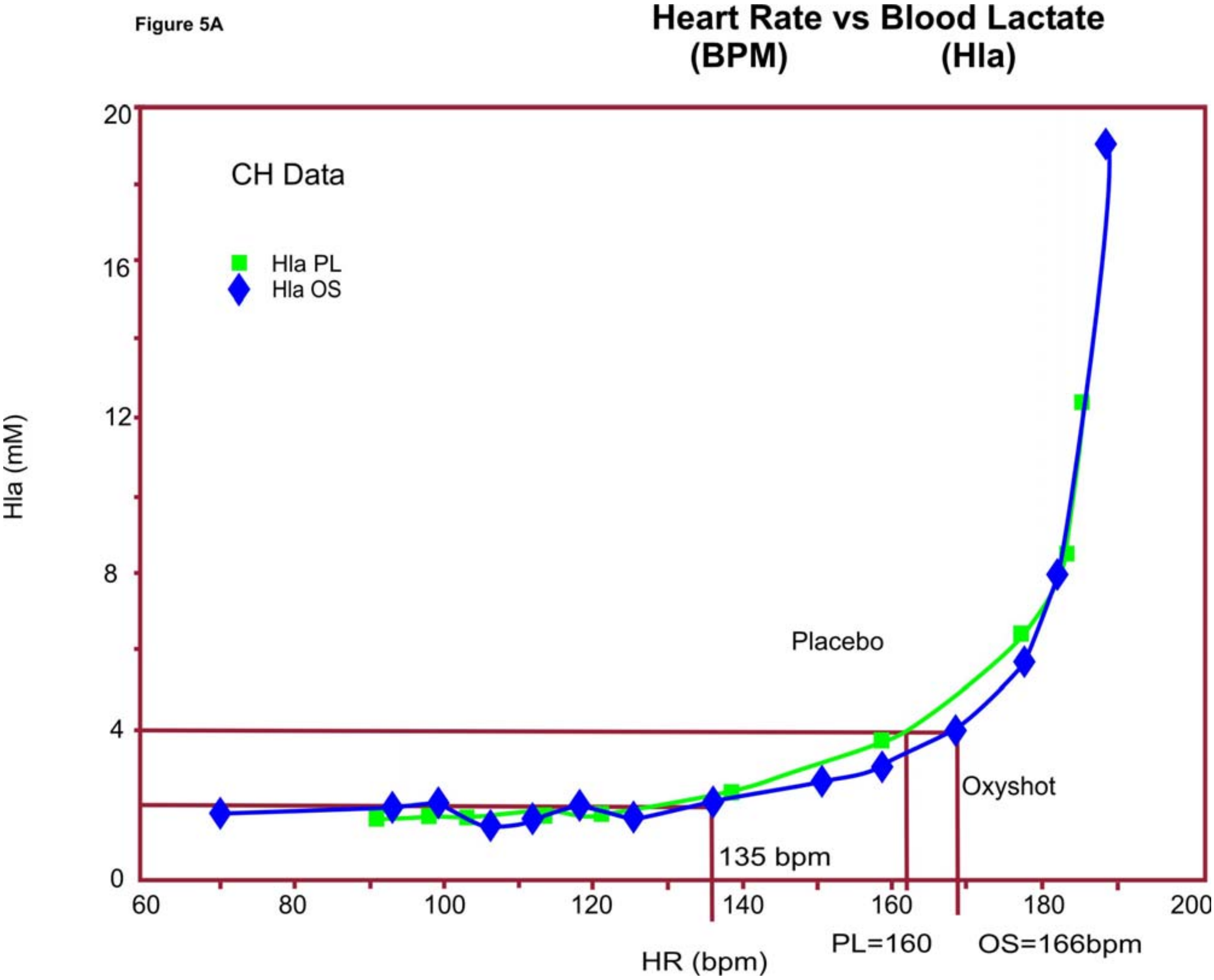

Heart Rate vs Blood Lactate
(BPM) (Hla)
CH Data
Hla PL
Hla OS
Placebo
Oxyshot
135 bpm
Hla (mM)
HR (bpm)
PL=160
OS=166bpm
0
4
8
12
16
20
60
80
100
120
140
160
180
200

Figure 6A

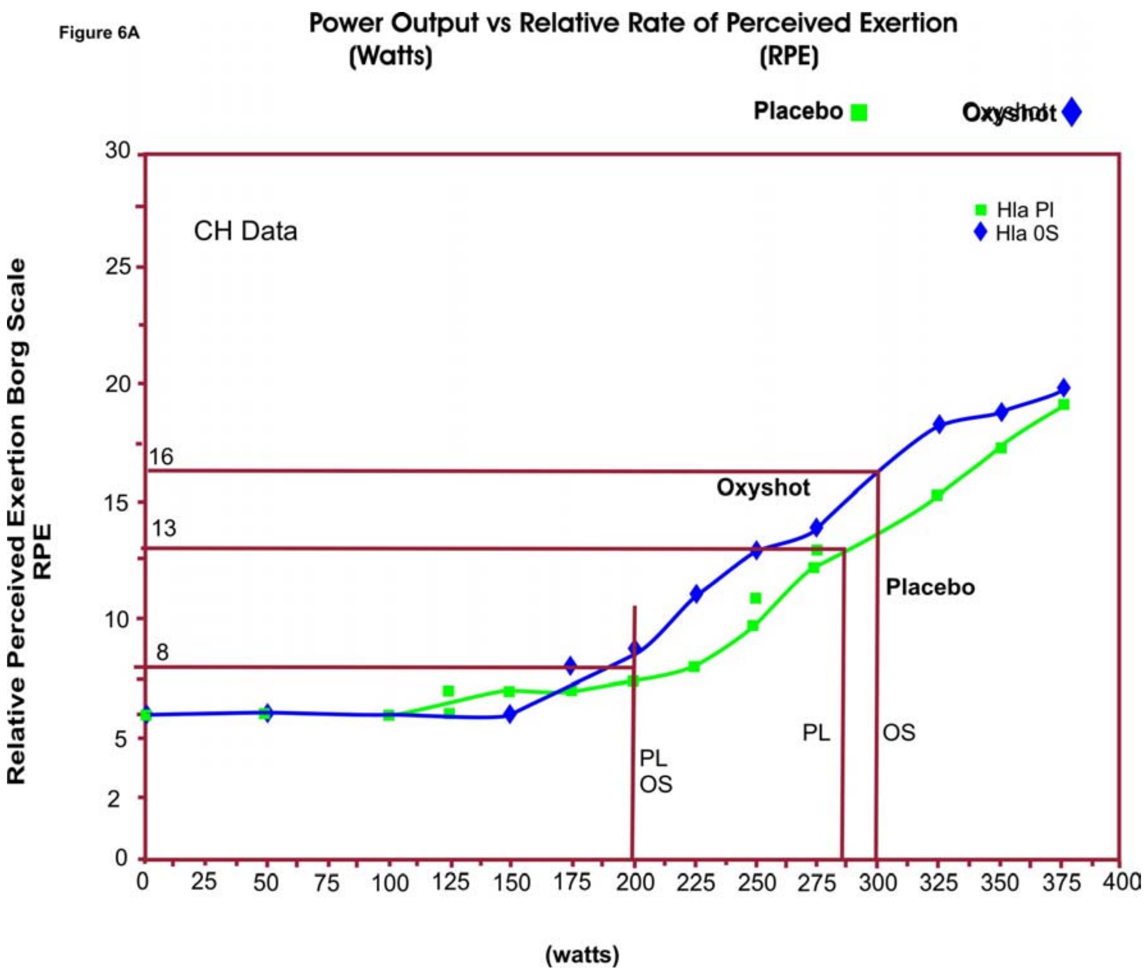

Power Output vs Relative Rate of Perceived Exertion
(Watts)
(RPE)
Placebo
Oxyshot
CH Data
Hla Pl
Hla 0S
Relative Perceived Exertion Borg Scale
RPE
30
25
20
16
15
13
10
8
5
2
0
Oxyshot
Placebo
PL
OS
PL
OS
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400
(watts)

Figure 1B

OxyShot Project
Data Summary

Subject **DG** **Female** **Master Ironman Triathlete**
Age **40 yrs**
Weight **67.70 kg**
Skinfold Total (7) **97.4 mm**
Maximal Data

Parameter	Placebo	OxyShot	Difference
VO2 peak (L/min)	3.97	3.88	-2.3%
VO2 peak Ml/kg/min	58.5	57.3	-2.3%
Peak Power (watts)	311	303	-2.6%
Exercise time to Exhaustion (mins)	22	22	0
Max Heart Rate (bpm)	188	188	
Max Ventilation (L/min)	110	108	
Max RER	1.11	1.05	

Comments

1. Small but consistent increase in Oxygen Uptake and power output at 4mM lactate Threshold (4-5%) and an increased steady state exercise heart rate at 4mM threshold (2.2%), following treatment with OxyShot (OS). This should translate into improved times during a triathlon (assuming the cycling test is equally applicable to swim and run performances) of around 3 mins/hour during the event.
2. Small moderate increase in Oxygen Uptake and power output at 2mM Lactate Threshold (7-25%) and an increased steady state exercise heart rate at 4mM threshold (5%), following treatment with OxyShot (OS).
3. Surprisingly, during the exercise tests the relative perceived exertion (RPE) was higher on OS than PL at most Power outputs, except those at near maximal exercise (there may be gender related issues).
4. There was a small decrease in peak VO2 (2-3%) and the other maximal performance data measured.
5. Recommendation training heart rates.
   a. Long slow distance (<2mM Threshold) 140 – 150 bpm (need to increase this as your LSD training HR appears to be too low for effective training)
   b. Quality aerobic training 150-165 bpm
   c. Lactate threshold Training (2 4mM Thresh) 165 – 175 bpm
   d. Speed and anaerobic training > 175 bpm
6. It was recommendation that the skinfold total be reduced to 80 mm and a weight goal of around 65 kg was desirable.

Figure 2B

OxyShot Project

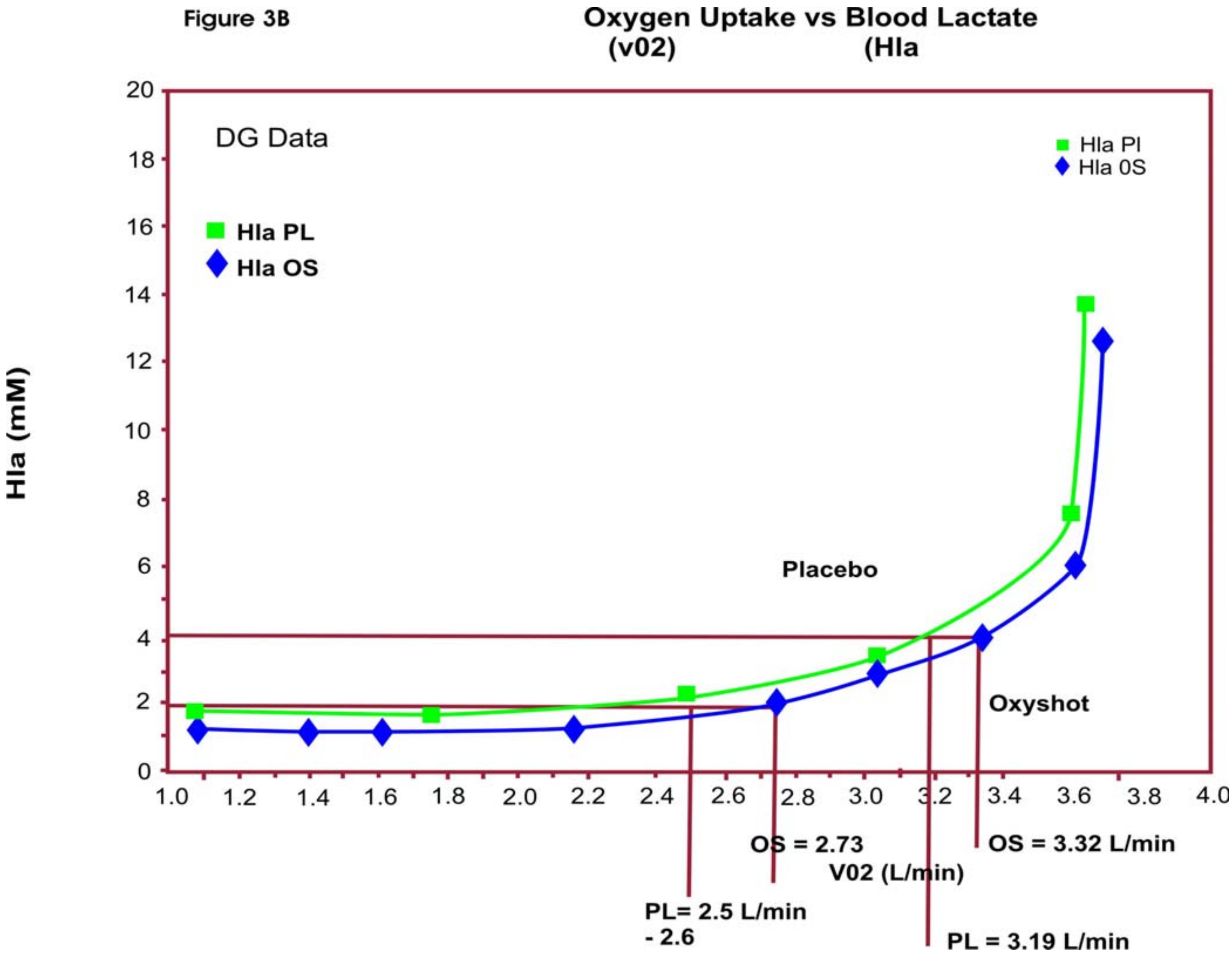
Data Summary

Subject DG

PARAMETER	PL V02* (ml/min)	PL HR (bpm)	PL Power (Watts)	PL RPE	OS V02* (ml/min)	OS HR (bpm)	OS Power (Watts)	OS RPE	PL Vs OS Percent Difference (from V02 data)
Aerobic Threshold 2mM HLa	2780	155	175	8	2975	162	220	13	+7.0%
Anaerobic Threshold 4mM HLa	3490	175	260	16	3620	179	275	16	+3.7%
VENT Th 1 (from V02 vs VC02 data)	3050				2800				
VENT Th 2 (from VE vs VC02 data)	na				na				

- The measured value has been adjusted from the graph below by a factor of (X 1.09)
- NA = not able to determine. No clear VTb2 was observed on the Vc02 and Ve graph.

Figure 3B


Oxygen Uptake vs Blood Lactate
(v02)
(Hla
DG Data
Hla Pl
Hla 0S
Hla PL
Hla OS
Hla (mM)
Placebo
Oxyshot
OS = 2.73
V02 (L/min)
OS = 3.32 L/min
PL= 2.5 L/min
- 2.6
PL = 3.19 L/min
20
18
16
14
12
10
8
6
4
2
0
1.0
1.2
1.4
1.6
1.8
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0

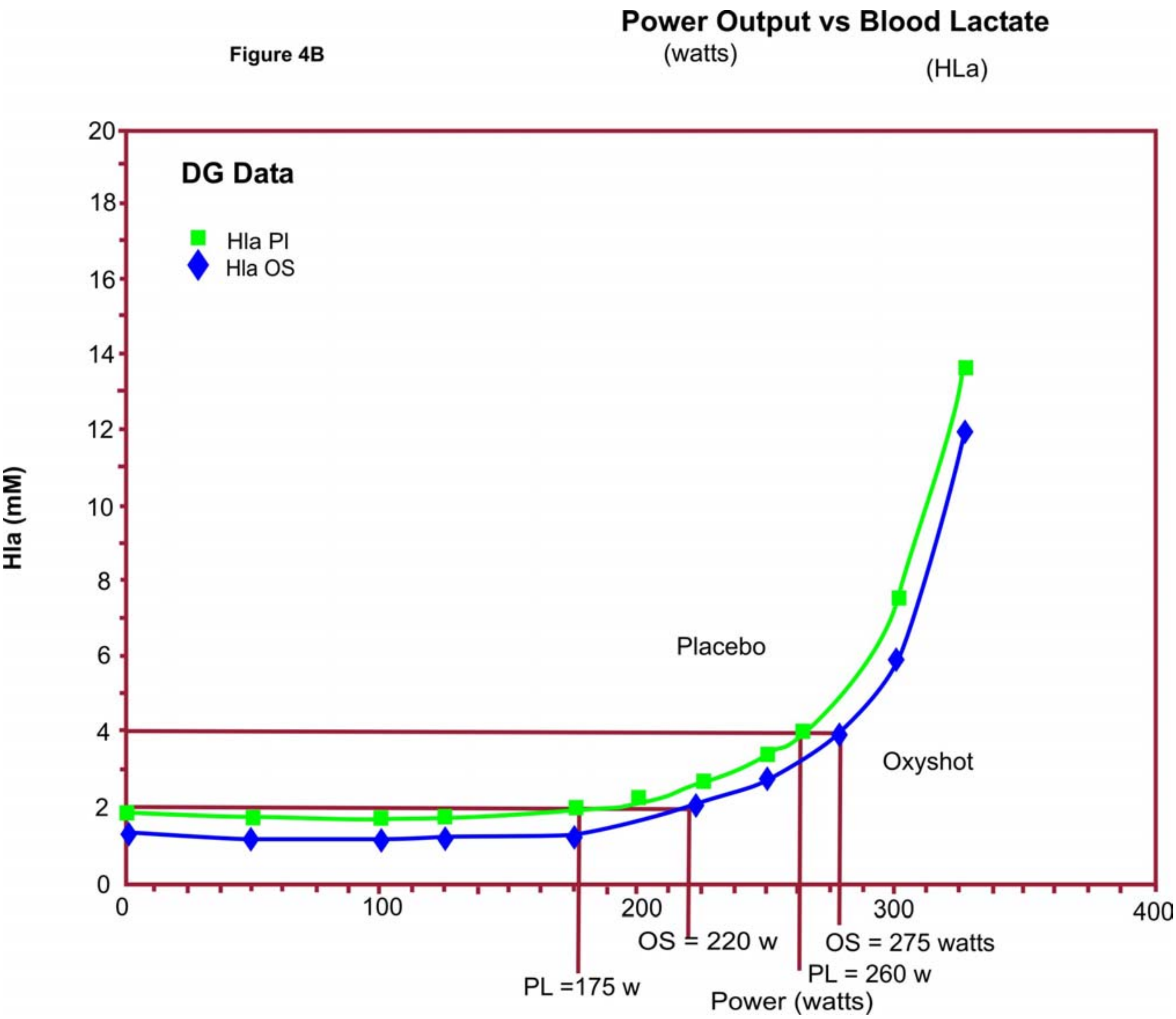

Power Output vs Blood Lactate
Figure 4B
(watts)
(HLa)
DG Data
Hla Pl
Hla OS
Hla (mM)
Placebo
Oxyshot
OS = 220 w
OS = 275 watts
PL = 260 w
PL =175 w
Power (watts)
0
2
4
6
8
10
12
14
16
18
20
0
100
200
300
400

Figure 5B

Heart Rate vs Blood Lactate
(BPM) (Hla)

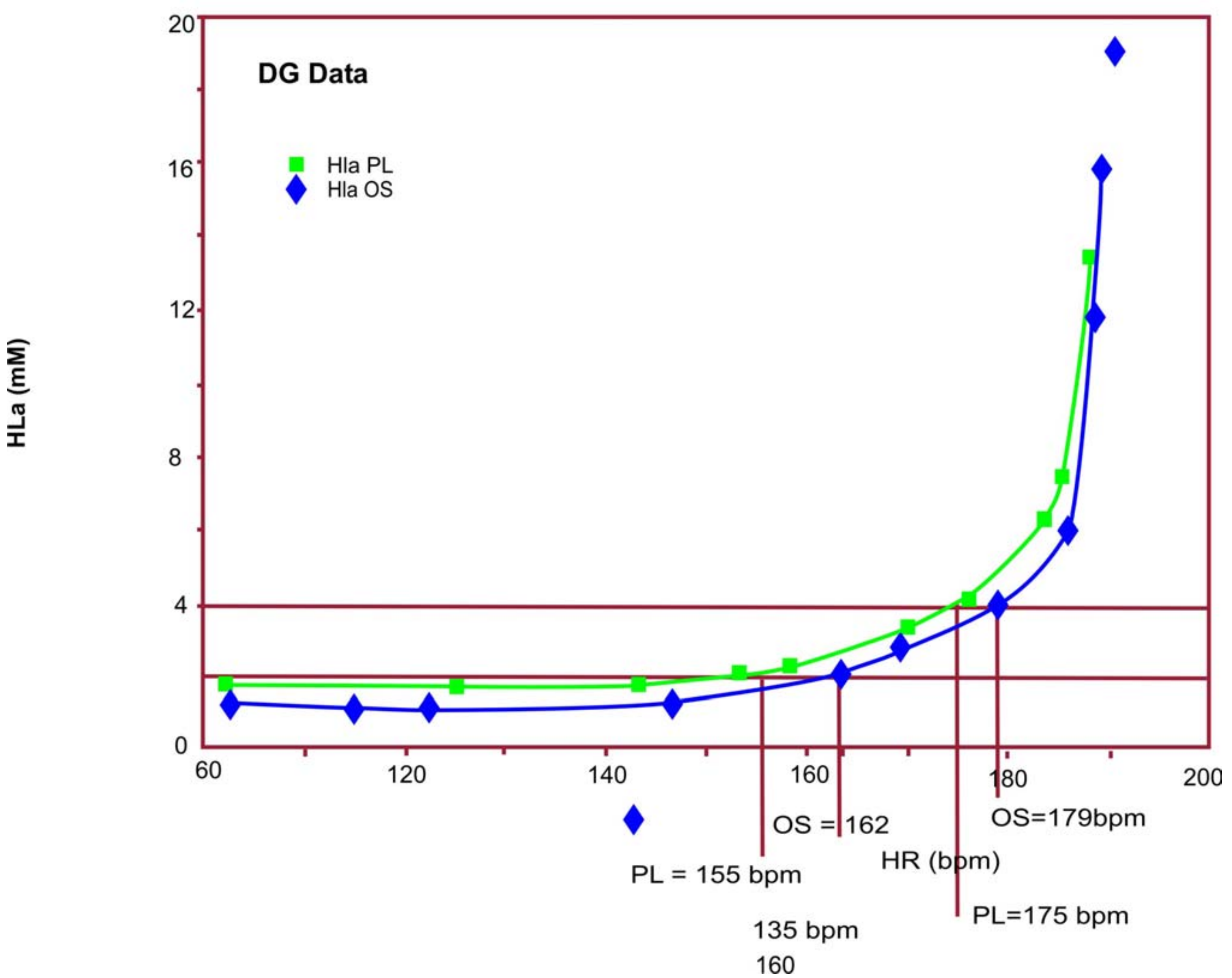


Figure 6B

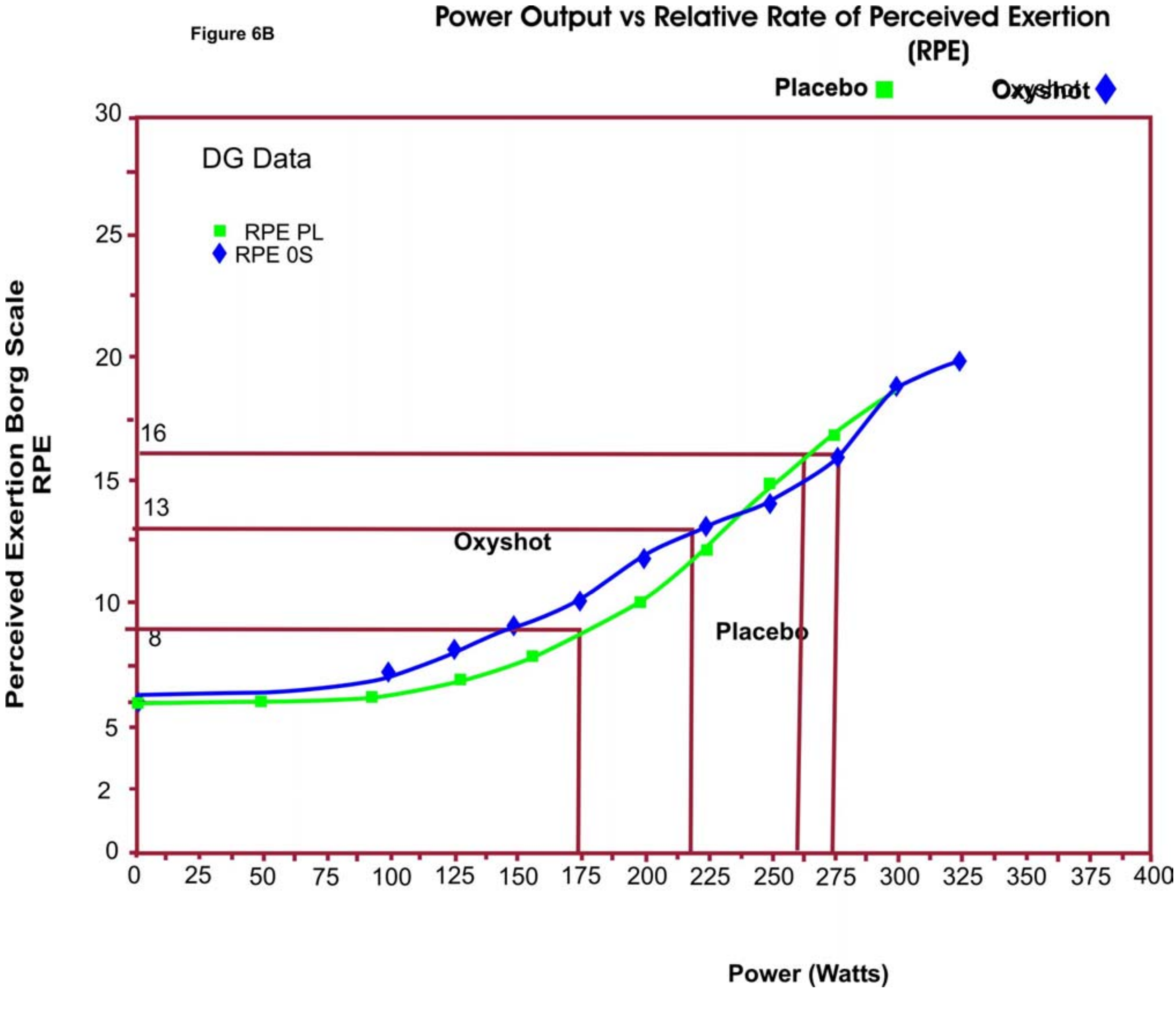

Power Output vs Relative Rate of Perceived Exertion (RPE)
Placebo
Oxyshot
DG Data
RPE PL
RPE 0S
16
13
8
Oxyshot
Placebo
Perceived Exertion Borg Scale RPE
Power (Watts)
0
2
5
10
15
20
25
30
0
25
50
75
100
125
150
175
200
225
250
275
300
325
350
375
400

Figure 7

THE RESULTS AT A GLANCE

Comparison in V02's between OS and PL trials at the 4mM HLa Threshold

SUBJECT	PL V02 (ml/min)	OS V02 (ml/min)	% Difference
CH	3700	3925	+ 6.1%
DG	3490	3620	+ 3.7%

Comparison in Power Output's between OS and PL trials at the 4 mM HLa Threshold.

SUBJECT	PL Power (Watts)	OS Power (Watts)	% Difference
CH	283	293	= 3.5%
DG	175	179	+ 2.2%

<u>Maximal Exercise Data</u>

There was no increase in the Peak oxygen uptake (V02 peak) or peak Power following treatment of OS.

Comparison in V02 peak's (in ml/kg/min) between OS and PL trials.

SUBJECT	PL V02 peak (ml/min)	OS V02 peak (ml/min)	% Difference
CH	76.2	77.2	+ 1.3%
DG	58.3	57.3	- 2.3%

Comparison in Power peak's (in watts) between OS and PL trials.

SUBJECT	PL Power peak (watts)	OS Power peak (watts)	% Difference
CH	389	394	+1.2%
DG	311	303	- 2.6%

What does this all mean?

Summary

The evidence is mounting that SPORTS OXYSHOT is ideal for elite and recreational athletes who wish to maximise their oxygen uptake and boost performance.

Research is continuing in Australia, the UK, USA and India.

Specific studies are underway to establish the exact processes that enable these record breaking outcomes to be achieved across such a diverse range of sports.

We will keep everyone informed as new research results become available.