



Bletchley & District Swim Club

Affiliated to the ASA South East Region and the Oxon & North Bucks ASA

TRAINING INFORMATION SHEET

The quality of the training the swimmers do is directly linked to the amount of effort that they put into a training session. The measure of the quality can be done using anyone of the following two techniques, time band (based on 200m maximum speed times) and heart rate swimming, these are closely linked and basically use zones. Training our swimmers to work in the correct zones can rapidly improve their performance ability to deal with multiple events as well as being able to sustain effort for long periods.

THE AEROBIC EXERCISE

Aerobic exercise develops the cardiovascular system, basically it trains the heart, lungs and cardiovascular system to process and deliver oxygen more quickly and efficiently to every part of the body. The word aerobic literally means "with oxygen", and the main energy source used is body fat. The body can sustain long periods of training at this level some 80% of the session. Training sets will typically consist of 50M – 200M sets alternating with short rest periods.

The Aerobic fitness of the swimmer is the first important key area required to produce a good all-round competitive swimmer.

THE AEROBIC ZONE

For swimming there are three Aerobic zones, zone 1a (Low intensity), zone 1b (Aerobic maintenance) and zone 1c (Aerobic development). It is important that the work to rest ratio is adhered to, as this is the building block for Aerobic fitness.

- **ZONE 1A**

For time band swimming this should be some 20 plus seconds slower than a 200m maximum speed swim or a heart rate approximately 70 –50 beats below Max heart rate (MHR). This zone is for endurance swimmers (800m – 1500m),

- **ZONE 1B**

For time band swimming this should be some 20 - 15 seconds slower than a 200m maximum speed swim or a heart rate approximately 50 –40 beats below Max heart rate (MHR). Rest should be 15 – 30 seconds, depending on fitness/ability.

- **ZONE 1C**

For time band swimming this should be some 15 - 10 seconds slower than a 200m maximum speed swim or a heart rate approximately 40 –30 beats below Max heart rate (MHR). Rest should be 15 – 30 seconds, depending on fitness/ability.

THE ANAEROBIC EXERCISE

The term "anaerobic" means "without oxygen." Anaerobic exercise uses muscles at high intensity and a high rate of work for a short period of time which helps us increase our muscle strength and stay ready for quick bursts of speed. The main source of energy is from the bodies reserves



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THE ANAEROBIC THRESHOLD

High intensity training rapidly depletes the short term energy stores and the bodies' Lactic acid builds up which contributes to muscle fatigue and exercise soon comes to a halt. The point at which the lactic acid rapidly increases is called the Anaerobic threshold (AT). Training in this zone, conditions the body to remove lactate better, ensuring the right types of workouts is the key to properly shape the AT, allowing the swimmer to swim faster for longer. Training sets will typically consist of high intensity, 50M sets alternating with rest periods.

THE ANAEROBIC ZONE

For swimming there are two Anaerobic zones, zone 2 (Anaerobic Threshold) and zone 3 (High Performance). It is important that the work to rest ratio is adhered to, in order to achieve the correct result. Over the next few months the session will work towards a maximum of 20% training in this zone.

- **ZONE 2**

For time band swimming this should be some 10 - 7 seconds slower than a 200m maximum speed swim or a heart rate approximately 30 – 20 beats below Max heart rate (MHR). Rest should be 15 – 30 seconds, depending on fitness/ability.

- **ZONE 3**

For time band swimming this should be some 7 - 4 seconds slower than a 200m maximum speed swim or a heart rate approximately 20 – 10 beats below Max heart rate (MHR). Rest should be approximately half the swimming time.

CALCULATION OF A ZONE VALUE

The calculation of a zone value, X%, is performed in the following way:

- Subtract your RHR from your MHR giving us your working heart rate (WHR)
- Calculate the required X% on the WHR giving us "Z"
- Add "Z" and your RHR together to give us the final value

Example: The athlete's MHR is 180 and her RHR is 60 - determine the 70% value

- $MHR - RHR = 180 - 60 = 120$
- $70\% \text{ of } 120 = 84$
- $84 + RHR = 84 + 60 = 144 \text{ bpm}$

We aim to slowly increase the swimmers work rate, using the heart rate monitors and the pacers, whilst monitoring there progress to ensure they make a smooth transition into the new training plan. The goal is to get more swimmers into next years Oxon & North Bucks Counties.