BRITISH SWIMMING TRAINING CLASSIFICATION

Description and Training Intensity Measurements

Training Zones	Name	Description	HR (bbm)	LA[4] (mM)	RPE
Zone 1	**A1**	**Aerobic Low Intensity** Base conditioning and technical training; warm-up and warm-down *Predominantly Fat Metabolism; largely slow-twitch fiber recruitment*	>50	< 2	<9
	A2	**Aerobic Maintenance/ Development** Base aerobic training *Improves cardio-respiratory system; enhances Lactate Removal*	40 - 50	2 - 4	10 - 12
Zone 2	**AT**	**Anaerobic Threshold** Maximal Lactate Steady State where Lactate production = Lactate removal *Optimal intensity for development of aerobic capacity*	20 - 30	3 - 6	14 - 15
Zone 3	**$V0_2$**	**Aerobic Overload** High intensity work at approximately VO_{2max} This type of training includes Heart Rate and Vcrit sets *Improves VO_{2max} and aerobic power*	5 - 20	6 - 12	17 - 19
Zone 4	**LP**	**Lactate Production** Training intensity results in the maximal speed of lactate build up This type of training includes Race Pace training *Enhances rate of glycolytic energy production*	5 - 15	8 - 15	17 - 19
	LT	**Lactate Tolerance** High intensity work with medium rest to improve buffering *Developing the ability to tolerate lactate/ acidity in the muscle*	0 - 10	12 - 20	19 - 20
Zone 5	**Speed**	**Sprinting – ATP-PC** High intensity, short duration, long rest repeats *Designed to improve alactic energy production (ATP-PC), neuromuscular coordination and fast-twitch muscle fiber recruitment*	N/A	N/A	N/A

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Relationship between different training classification systems[1]

Training zones	British Swimming	Description	HR[2] (bbm)	Log book (simplified)	Sweetenham and Atkinson[3]		Maglischo[4]	Olbrecht[5]
1	A1	Aerobic Low Intensity	>50	Aerobic	Zone 1	A1	EN1	AEC
	A2	Aerobic Maintenance	40-50			A2		
2	AT	Anaerobic Threshold	30-40			A3	EN2	
			20-30		Zone 2	AT		
3	VO_2	Aerobic Overload	10-20	Race Pace	Zone 3	MVO_2	EN3	AEP
4	LP	Lactate Production	0-10		Zone 4	LP	SP2	ANC
	LT	Lactate Tolerance	0-10			LT	SP1	ANP
5	Speed	Basic Speed ATP-PC	N/A	Race Speed	Zone 5	Sprint	SP3	Sprint

1. This document simplifies training terminology and should be used as a guideline.
2. Individual maximum heart rates should be used to calculate HR (beats below maximum).
3. Sweetenham, B. and Atkinson, J. (2003). *Championship Swim Training*. Human Kinetics, Leeds, UK.
4. Maglischo, E. (2003). *Swimming Fastest*. Human Kinetics, Leeds, UK.
5. Olbrecht, J. (2000). *The Science of Winning: Planning, Periodizing and Optimising Swim Training*. Swimshop, Luton, England.