

A Brief Insight into Competitive Swimming



By Marc Soulsby

Swimming 8 hours per week

This level offers participation, fun, involvement and significant health benefits, but it is not competition swimming and never produces a competitive result.

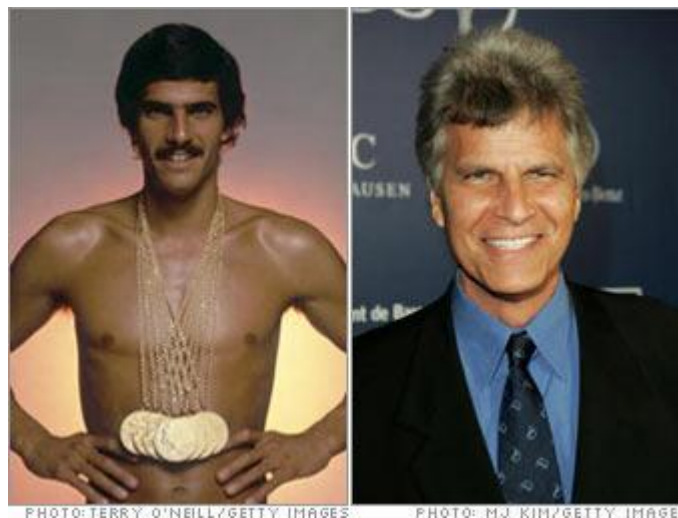
Swimming 10 to 12 hours per week

This amount of swimming is too much training to be fun but not enough to produce a competitive result. The swimmer in this middle ground never feels good, and in time become frustrated.

Swimming 18 to 24 hours per week

This level can be termed competitive swimming. Athletes in this program are committed and gain satisfaction by attaining improved competitive results.

Bill Sweetenham – Former National Performance Director of British Swimming



Above is Mark Spitz (USA). He won seven Olympic Gold medals at the 1972 Munich Olympic Games in Germany. His father, who was also his coach, once told him:

'It's not swimming that matters...its winning!'

(Front cover – Rebecca Adlington (Great Britain), Olympic gold medallist, 2008, 400m and 800m Freestyle, Beijing)

Introduction

Who am I?

I started swimming over thirty years ago and was advised by a teacher to join a competitive swimming club, so I joined Oldbury Swimming Club. There I stayed for nearly 20 years, gaining County and Midland District medals as well as achieving National Qualifying times.

I also used to train early mornings with Haden Hill Swimming Club, picking up ideas and tips from other National and International swimmers and coaches.

I joined Warley WASPS in 1988 to play waterpolo and continued to do so up until 2004, where coaching duties took preference.

In 1999, I finally left Oldbury and became the Junior coach of Warley WASPS, where the club enjoyed a number of years of great success in the Nuneaton Junior League with promotions from Division 4 up to Division 1 in successive seasons, as well as numerous swimmers achieving County, Midland Regional and National qualifying times. This helped to increasing my personal knowledge and understanding of the sport.

In November 2005, I joined Stourbridge swimming club as their Assistant head Coach, where again, the swimmers enjoyed huge successes at County and Midland Regional's and swimmers progressing to National qualifying times.

During 2008 and into 2009, I was fortunate enough to be selected to coach the England Youth Talent Programme swimmers in Warwick. Here I was again able to pick up useful information from the other coaches there and also from some of the swimmers who were selected to attend the various camps

Throughout my years as a teacher and coach I have discovered that many parents and swimmers do not actually understand why they swim up and down a pool so many times.

It was for this reason that I decided to compile this booklet for the use of both parent and swimmer, detailing as simply as possible these very reasons.

Much of the information included within this booklet is knowledge I have gained through personal experiences as a swimmer (both in training and in competitions), by attending various courses, through discussions with other coaches during my fifteen plus years of teaching and coaching within various sports, including water polo and semi-professional football (Blackheath), as there are many similarities in the way athletes train across the spectrum of sport, which all of the following information encompasses.

Once read, you will discover that swimming is a highly skilled, very technical and scientific sport, thus explaining the reasons why we must swim up and down a swimming pool so many times.

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An insight into competitive training

At Warley WASPS Swimming Club we train towards specific goals, these goals are aimed at our swimmers obtaining the relevant standard to compete in the below mentioned categories.

Competitive swimming can be broken down into a number of categories, namely:

- Club
- County
- Regional
- National
- International

Every competition above club level (club being a term used to describe galas and club championships) requires swimmers to have achieved specific times. These times increase in difficulty as the swimmer progresses through the above stages.

For each major competition our swimmers enter i.e. Worcester County Championships, our swimmers are prepared through some 12 to 15 weeks of progressive training, which is called a cycle (see page 12).

This 15 week cycle is then split into four phases, Preparation, Conditioning, Competition and Recovery.

Each phase has a specific number of weeks assigned i.e. Preparation - 3 weeks, Conditioning – 8 weeks, Competition – 2 weeks, and Recovery – 2 weeks.

Preparation Phase

This phase deals with technique work and slowly builds up work rates/loads ready for the main conditioning phase. The training in these weeks is relatively easy and doesn't place too much stress on the body.

Conditioning Phase

This phase is where the bulk of the work is done. Yardage during these weeks increases as the weeks progress as does the difficulty of the work given i.e. times will be reduced and distances of sets increased.

Competition Phase

This phase is where, what is termed, "quality" work is done. Quality work is where Personal Best (P.B) times are achieved actually in the training session, over a number of repeats, allowing ample time for recovery in-between each swim. Yardage during these sessions will be greatly reduced due to the longer rest periods.

The work done during these weeks will be geared around a specific event falling within these weeks.

Rest & Recovery Phase

This phase will be similar to the preparation phase. Yardage will be decreased so the body can recover from the competition phase, leaving the swimmers fresh for the next cycle.

Principles of Training

“The underlying principles of training, centre around the ability of the human body to adapt to stresses placed upon it. By gradually and progressively adding greater work loads in terms of distance and/or speed; over a period of time swimming performances can be improved.”

“It’s not so much the hours you put in; it’s what you put into the hours that count.”

There are six different forms which our swimmers are put through to gain improvements, which encompass the three energy systems our body’s utilise i.e. *aerobic, anaerobic, and ATP PCr* (Adenosine Triphosphate Phosphocreatine) systems.

To understand why training is important, we must first understand the basics of the body’s energy systems.

Aerobic

This means to work with the presence of oxygen which helps to keep muscular acidification to a minimum. This is the basic energy system of all sport and training. It helps to maintain the body’s ability to continue without becoming totally exhausted due to lactic acid build-up (acidosis), with little rest periods.

An aerobic set would be as follows: 25 x 100 yards Front crawl with 10 seconds rest after each 100 swim, Target Time (T.T.) of 75-80% of P.B.

Anaerobic

This means to work without the presence of oxygen. Anaerobic can be split into two categories: anaerobic – where energy release is very rapid and aerobic – where energy release is at a slower rate. Both of these terms together are known as *Anaerobic Glycolysis* (a combination of complex chemical reactions within the body).

ATP PCr

This is the process which refers to the rapid recycling of ATP through the breakdown of Phosphocreatine. The utilisation of this system gives approximately 5 to 11 seconds (depending on which book is being read) of maximal muscle contractions.

After this, the body reverts to either the aerobic or anaerobic system for the production of energy.

We will now consider the six levels at which athletes train.

Firstly, the three levels of endurance training known as:

EN1 – Basic Endurance

EN2 – Threshold Endurance

EN3 – Overload

EN1 – this involves swimming long distances at moderate speed. Most of the muscular adaptations during this form of training will take place in slow twitch (Type 1) muscle fibres. Fat metabolism is delivered quicker at these levels than at high intensities (fat burning zone).

EN2 – this involves swimming distances at set percentages to P.B's (normally 85%) or to a percentage of maximum heart rate. Threshold training helps the body adapt so the oxygen is efficiently utilised and the lactate removal from fast twitch (Type 2 - FTa, FTb) muscle fibres is improved.

EN3 – overload training is done at speeds exceeding that of threshold and can be done at approximately 86-94% effort (or in some cases 2 seconds below that of EN2), of the swimmers P.B, with only a short rest period. This helps to increase oxygen use and lactate removal in FTb, FTa and slow twitch muscle fibres.

The second three levels of training are sprint and are known as:

SP1 – Lactate Tolerance

SP2 – Lactate Production

SP3 – Power Training

SP1 – lactate tolerance training involves swimming long sprints with long rest or short sprints with short rest. The general work to rest ratio is normally given at 1:4/5 i.e. 15 second sprint with 1 minute of rest, or a 1 minute sprint with 4 minutes of rest.

The reasons for training at this intensity are as follows:

- a) to increase muscle buffering
- b) to improve the ability of athletes to maintain stroke technique and speed in spite of severe acidosis (build up of lactic acid)
- c) improve the ability of athletes to tolerate the pain of lactic acid build up.

SP2 – lactate production training consists of short sprints at near maximum speeds (approx 98% of P.B) for improving anaerobic power. Some of the effects of training at this intensity are as follows:

- a) increase in the rate of anaerobic metabolism
- b) increase in maximum sprinting speed
- c) increase in the quantities of ATP and Phosphocreatine (PCr) stores in trained muscle fibres

SP3 – this consists of very short sprints i.e. ½ length which stress the force and speed of muscular contractions involved in swimming. The effects of this type of training are:

- a) muscular strength
- b) an increase in speed in which the nervous system can stimulate the recruitment of muscle fibres
- c) speed of muscular contractions

Training at Warley WASPS

The training our swimmers at Warley undertake encompasses all of the above methods of training. At present, we train throughout the week, with competitions on Saturdays and occasionally Sundays.

The sessions which are provided for both squads (Juniors and Seniors) are as follows:

Squad Criteria	Day	Time	Venue	Min. No. of Sessions
Transition 7 - 10 years Stroke Development Phase	Monday	5:30 - 6:45 p.m.	Smethwick Swimming Centre	2
	Wednesday	5:30 - 6:30 p.m.	Smethwick Swimming Centre	
	Saturday	8:00 - 9:00 a.m.	Smethwick Swimming Centre	

Squad Criteria	Day	Time	Venue	Min. No. of Sessions
GREY SEALS 9 - 12 years County Targets	Monday	5:30 - 6:45 p.m.	Smethwick Swimming Centre	3
	Wednesday	5:30 - 6:30 p.m.	Smethwick Swimming Centre	
	Thursday	6.45 – 7.45 p.m.	Aston University	
	Friday	7:00 - 8:15 p.m.	Aston University	
	Saturday	8:00 - 9:00 a.m.	Smethwick Swimming Centre	
	Sunday	12:00 - 1:00 p.m.	Langley Swimming Centre	

Squad Criteria	Day	Time	Venue	Min. No. of Sessions
BLUE DOLPHINS 12+ years County & Regional Targets	Monday	6:45 - 8:15 p.m.	Smethwick Swimming Centre	3
	Tuesday	7:15 - 8:30 p.m.	Aston University	
	Wednesday	6:30 - 8:00 p.m.	Smethwick Swimming Centre	
	Thursday	6:45 - 8:30 p.m.	Aston University	
	Friday	7:00 - 8:30 p.m.	Aston University	
	Saturday	8:00 - 9:00 a.m.	Smethwick Swimming Centre	
	Sunday	12:00 - 1:30 p.m.	Langley Swimming Centre	

Squad Criteria	Day	Time	Venue	Min. No. of Sessions
WHITE SHARKS 12+ years County Regional & National Targets	Monday	6:45 - 8:30 p.m.	Smethwick Swimming Centre	4
	Tuesday	7:30 - 9:00 p.m.	Aston University	
	Wednesday	6:30 - 8:00 p.m.	Smethwick Swimming Centre	
	Thursday	6:45 - 8:30 p.m.	Aston University	
	Friday	7:00 - 9:00 p.m.	Aston University	
	Saturday	8:00 - 9:00 a.m.	Smethwick Swimming Centre	
	Sunday	12:00 - 2:00 p.m.	Langley Swimming Centre	

Each day stated, has an assigned amount of work (see pg 16), taken from the six training types i.e. EN1, EN2, SP1 etc... depending upon the aims of the session and the week in the cycle. It may also be noticed that SP1 and SP2 sets are never swam in back to back sessions. This is due to the amount of muscular glycogen used during these types of session. It takes approximately 24 hours for the levels of glycogen to be restored to normal levels, so we only swim EN1, EN2, EN3 or SP3 sets.

If we consider the percentages of the different forms of training throughout the cycle, we end up with following breakdown:

Week	% Aerobic (EN1/2/3)	% Sprint (SP1/2)	% Maximal (SP3)
<i>1 - Preparation</i>	85	5	10
<i>6 - Conditioning</i>	80	10	10
<i>10 - Competition</i>	70	20	10
<i>13 - Rest & Recovery</i>	90	5	5

This can obviously, be changed to alter the type of swimmers we have depending on the level of swimmer. Sprinters tend to do a little less aerobic and will have more SP1/2 work to do, but in general all will be following the same sort of programme.

As can be seen from the weekly training cycle, the understanding of the body's energy systems and percentage breakdown that swimming is a very complex, highly skilled and scientific sport, when considering a race may only be a 25 metre sprint lasting 12 to 20 seconds or a 100 metre swim lasting 1 minute.

To be a true competitive swimmer, the body must be able to cope with and adapt, to increasing stresses placed upon it, which means that all aspects of training are required to condition swimmers.

It is for this reason that swimmers (and other amateur athletes) have to train 3 times per day, 50 weeks per year.

Attendance

As can be seen from the weekly breakdown sheet (pg 16), there are many aspects of training covered each week, with aspects being changed from week to week, cycle to cycle i.e. EN1 sessions will not always be held on Fridays and sprints will not always be done on Mondays etc...

Due to the high bodily demands of swimming, the following is a normal guideline, set by the Long Term Athlete Development (LTAD) and adapted by Stourbridge, for the required sessions attended per week:

<i>Swimmer Age</i>	<i>No. Of Sessions</i>
9	2/3
10	3
11	3
12	3/4
13	4/5
14 upwards	6+

Attending one session per week, or less than 4-5 sessions per month is not, by any means, considered to be competitive.

As the swimmer matures and grows, demands on the body can be increased and needs to be increased.

As swimmers move through the age-groups, entry times to competitions decrease (see pg 21 to 24), the only way to achieve these times, is to train. Because the training cycles at Warley WASPS are designed to progress swimmers, those who do not attend regular sessions will struggle with times and distances set. This is where many clubs lose their swimmers.

To train less than the recommended number of sessions, swimmers will never achieve their full potential, and will never reach the upper levels of quality swimming i.e. County, Regional, National & International standards.

“A week’s missed training takes 3 weeks of work to reach levels previously at, 2 weeks missed training takes 6 weeks of work to reach previous levels, and this is the general trend until a point of no return is reached.”

Nutrition

For all athletes, nutrition is critical. Swimmers place much stress on their body's, demanding arms and legs to work harder and harder. The energy used must be replaced and the only way to do this is to eat the correct foods. Food is the body's energy source, and one of two things with it, turn it into energy or into the body's structure. It helps to make muscle, or it is stored.

"We are what we eat!"

Food which is turned into energy is fat, protein and carbohydrate as well as vitamins and minerals.

Nutrition plays a major role in the success of competitive swimmers. Good nutrition means eating foods that provide the body with the necessary balance of essential nutrients, energy and water, every day. It is critical for swimmers to practise good nutrition, because all swimmers, whether they be sprinters or distance swimmers are endurance athletes. Training up to six times per week, using the same muscles either aerobically or anaerobically drains the muscles of their energy. This must be put back and the only way is through good nutrition.

The key components to good nutrition are carbohydrates, water and balance in the diet. All of these together help to produce maximal performance.

Why do we not eat for two hours before we swim?

Digesting food requires energy. Nutrients are broken down in the stomach and intestines and are transported to others parts of the body via our blood supply.

If we eat before we swim the body's blood supply is already working overtime during the digestion process. When an athlete starts to warm up it induces an effect called 'blood shunting'. This is a process where all the body's blood is moved to the areas where it is required by dilating (opening) and constricting (closing), arteries, veins and capillaries to the areas requiring/not requiring extra oxygen.

As swimming is a demanding sport, the majority of the muscles require extra oxygen to compensate for the extra work load, so processes such as digestion are partially closed down. This in turn means that the food in the stomach is not being removed, so the body rejects it, causing vomiting.

This is another reason why a warm up is done at a fairly easy pace.

(See page 14 for Dos and Don'ts for Training and Open Meets)

Conclusion

For swimmers to achieve optimum levels, both parent and swimmer have to be committed and must want success.

Here are a few pointers into what being a competitive swimmer actually means:

- Competitions are normally held within the Midlands. As swimmers progress, competitions are more wide spread (anywhere in the UK) and most of the bigger competitions are held over the complete weekend (Friday to Sunday).
- Training can be expensive and when open meet entry fees are taken into consideration, weekends can be very expensive.
- Being woken at 5.00 a.m. by an alarm clock, to be in the water by 6.00 a.m. is a daunting prospect.
- The ability to push your body until your arms and legs feel like they're going to explode and then push harder.
- Being organised – all top age-group swimmers still manage to swim 12 times per week as well as completing homework and obtaining the relevant qualifications.
- Having the will to eat the correct food types. ***“Healthy body, healthy mind!”***
- The ability to be self motivated.
- The ability to be focussed.

All (and more) of the above are just a few traits of a committed parent/swimmer. While swimmers are young it is the parent who makes many of the decisions, these must be the right decisions.

Reaching elite status is not impossible by any means. All can be achieved through commitment, good organisation skills and through creating set routines.

Please remember that all of the information containing within this booklet are the very basic guidelines, there is room for change, and there can be plenty of variety, do not take the above as 'gospel', nothing in sport is set in stone.

If there are any queries, questions or concerns, contact a coach, that is why we are here.

Are you ready for competitive swimming? If so...

“Welcome to the world of competitive swimming!”

Appendix

Details of Yearly Training Programme

Warley WASPS - 2009/2010 Yearly Cycle Plan

Cycle 1 - Worcester County Championships Qualifying

Cycle 1 start Date: Sunday 6th September 2009 Finish Friday 11th December : Club Championships and Club Designated Open Meet (Level 3) Fall between Weeks 10-12. All concentrating on County Qualifying.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
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General Prep work for Cycle 2			Cycle 2- Worcester County Championships										
Christmas Period			Cycle 2 start Date: Sunday 3 rd January 2010 Finish Friday 9 th April Weeks 10 to 13 being Competition										
15	16	17	1	2	3	4	5	6	7	8	9	10	11

Cycle 2 Continued			Cycle 3 - Junior League & Level 3 Open Meet										Cycle 4
			Cycle 3 Start Date: Sunday 18 th April 2010 Finish Friday 25 th June 2010. Main Competition Weeks 20-22. Juniors Concentration on Nuneaton Junior League										
12	13	14	15	16	17	18	19	20	21	22	23	24	25

Cycle 4 - Junior League Finals & Preparation For County Qualifying

Cycle 4 Start Date: Sunday 27th June Finish Friday 3rd September 2010. Main Competition being preparation of any Junior League Final and Preparation For Next County Qualifying Cycle.

26	27	28	29	30	31	32	33	34	35
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Details of Training Cycles - Macro Cycle

Warley WASPS Swimming Club

*Junior & Senior Development Programme
Training Macro Cycle*

Cycle No.: 1 - County Championship Qualifying

Week Beginning Start Date: 6/9/09 Week Ending Finish Date: 6/12/09 Length Of Cycle: 14 Weeks

Macro Cycle														
Preparation		Conditioning							Competition			Recovery		
Meso Cycle		Meso Cycle							Meso Cycle			Meso Cycle		
Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro	Micro
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Week Number														

Micro Cycles

Junior & Senior Development Programme

Weekly breakdown of Macro Cycle

Micro Cycles - Conditioning Phase

Week No. 3 Conditioning						
Sunday Date: 20-9-09	Monday Date: 21-9-09	Tuesday Date: 22-9-09	Wednesday Date: 23-9-09	Thursday Date: 24-9-09	Friday Date: 25-9-09	Saturday Date: 26-9-09
<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>
<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>
EN1 - FLY TECHNIQUE & DRILL SP1 - F/C & No.1 SWIMS 1 & 2 LTHS	EN1 - FLY TECHNIQUE & DRILL EN3 - IM PULL & KICK 4x1 4x2 & 400's SP3 - FLY STARTS	EN1 - FLY TECHNIQUE & DRILL EN2 - IM's 100 & 200 INC. KICK & PULL SP3 - FLY TURNS	EN1 - FLY TECHNIQUE & DRILL EN3 - F/C & No.1 SWIM & PULL 100's & 200's SP3 - FLY STARTS	EN1 - FLY TECHNIQUE & DRILL EN2 - IM's 100 & 200 KICK & PULL SP3 - FLY TURNS	EN1 - FLY & BR TECHNIQUE & DRILL EN2 - F/C DISTANCE – SPLIT 400's SP3 -FLY & BR TURNS	

Week No. 4 Conditioning						
Sunday Date: 27-9-09	Monday Date: 28-9-09	Tuesday Date: 29-9-09	Wednesday Date: 30-9-09	Thursday Date: 1-10-09	Friday Date: 2-10-09	Saturday Date: 3-10-09
<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>	<u>am</u>
<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>	<u>pm</u>
EN1 - BK TECHNIQUE & DRILL SP1 - F/C & No.1 BROKEN 100's	EN1 - BK TECHNIQUE INC. DRILLS EN2 - No.1 1, 2,3 LTH'S & PULL & KICK SP3 - BK STARTS	EN1 - BK SWIM & TECHNIQUE INC. DRILLS EN3 - F/C & No.1 25, 50,75,100 & 200's SP3 - BK TURNS	EN1 - BK SWIM & TECHNIQUE INC. DRILLS SP1 - 2LTH's No.1 STROKE SP3 - BK STARTS	EN1 - BK SWIM & TECHNIQUE INC. DRILLS EN2 - HUNGARIAN REPS IM ORDER SP3 - BK TURNS (WTHS)	EN2 - PYRAMID REPS IM ORDER DRILL, PULL, KICK & SWIM EN1 - BK TECHNIQUE & DRILLS SP3 - BK TURNS (WTHS)	

Dos and Don'ts for Galas and Open Meets

Not eating correctly before or too close to the start of a gala, open meet etc..., all the hard preparation that has gone into training **will** come to waste.

If swimmers eat large meals before any event, blood that should be supplying muscles with oxygen and nutrients will be too busy trying to absorb nutrients from the intestine, consequently, the muscles will suffer.

Eating simple carbohydrates (sugar, including chocolate etc...) will stimulate the release of insulin from the body. A fast release of insulin means that sugar is quickly absorbed into the body's cells far quicker than what would have been, thus leaving very little in the bloodstream, thus leaving little for the muscles during a race.

Low blood sugar causes light-headedness, weakness, lethargic etc... and is not the necessary qualities for a swimmer who is about to race.

Dos

- Eat your last meal at least 3 to 4 hours before race time.
- Correct pre-race meals include – sandwiches (avoid fatty fillings), fruit, and pasta.
- Eat familiar foods.
- Drink plenty of water to stay hydrated, as most pools swimmers compete in are hot and humid, small quantities frequently.

Don'ts

- Pre-race meals should not include meats, gravies, sauces and cheese (fats).
- Avoid soft drinks 1 hour before the race (water is the ideal drink).
- Don't swim totally hungry.
- Avoid chocolate bars, biscuits or sugary foods within 1 hour of a race. Fruit is the best food in these situations.

During an open meet break foods such as crisps, burgers, chips, sweets etc... should be avoided at all costs. The body requires extra energy to digest these foods and poor performance results.

Please see pages 18 and 19 for a sample of a *training* and *competition* 'Nutrition Plan', these give the basics of what meals and food types should be eaten before, during and after training and competitions.

These plans can be changed to suit the swimmers needs and to add variety into the diet.

Training Nutrition Plan

Name Of Swimmer/Squad	Seniors
Date Of Plan	
Aim Of Plan	To improve swimmers diet prior to training and competition
Length Of Plan	4 Weeks

	Types of Food	Quantity	Food Groups	Fluid Intake	Timing
Pre A.M Training	Cereals	½ Bowl	Carbohydrates Unsaturated Fat Vitamins Protein	Fruit juice	Approx 1 hour before swimming
During Training	None			Cold water, add cordial for taste if required	Small amounts during session
Post A.M Training	Cereals Toast, with margarine & jam or marmalade	1 Bowl 2 slices (medium)	Carbohydrates Unsaturated Fat Vitamins Protein	Cordial juice or hot drink (tea, coffee etc...)	
Pre P.M Training	Turkey or chicken sandwich Fruit – apples, orange etc...	2-3 rounds of bread 2 pieces	Carbohydrates Unsaturated Fat Vitamins Protein Fibre	Cordial juice or hot drink (tea, coffee etc...)	Approx 1 ½ hours before swimming
During Training	None			Cold water, add cordial for taste if required	Small amounts during session
Post P.M Training	Rice or Pasta based meal (inc salad) Yoghurt	Medium plate size portions Standard shelf size	Carbohydrates Vitamins Protein Fibre	Cordial juice or hot drink (tea, coffee etc...)	Approx 1 hour after training

Competition Nutrition Plan

	Types of Food	Quantity	Food Groups	Fluid Intake	Timing
Night Before Competition	Rice or Pasta based meal (inc salad)	Medium plate size portions	Carbohydrates Vitamins Protein Fibre	Cordial juice or hot drink (tea, coffee etc...)	Early evening 5.00 p.m to 6.00 p.m
	Fruit	2 pieces			
Pre Competition Meals and Snacks	Porridge or oats with syrup and raisins	Large portion	Carbohydrates Vitamins Fibre	Cordial juice and or hot drink (tea, coffee etc...)	A minimum of 2 hours before competition
Between Races 2 to 4 Hours	Tuna or ham sandwich with margarine	1 round of bread	Carbohydrates Unsaturated Fat Vitamins Protein Fibre	Cold water, add cordial for taste if required	Within 30 mins of last event. Fluid taken throughout competition
	Fruit – bananas, apples etc...	2 pieces			
Between Races (less than 1 hour)	None			Cold water, add cordial for taste if required	Fluid taken throughout competition
Post Event	Soup (own choice)	1 bowl	Carbohydrates Vitamins Protein Fibre	Cordial juice and or hot drink (tea, coffee etc...)	As soon after the event as possible
	Jacket potato and fillings Pancakes	Average size, medium filling 1 to 3			

Signatures:

Swimmer: _____

Parent: _____

Coach: _____

Further Reading

Swimming coaching is a science in itself. If any of the previous information has 'wetted' your appetite for teaching/coaching swimmers, the following is a recommendation of further reading, which will give greater details on the human body, specific training and how it effects the body, how the body adapts to the stresses swimming places upon it, the biomechanics of swimming and much, much more.

Science of Coaching Swimming, LEONARD J, 1992

Swimming Coaching, DIXON J, 1996

Swimming Fastest, MAGLISCHO E W, 2003

Championship Swim Training, SWEETENHAM B, ATKINSON J, 2003

These are just a few of the books I have personally found useful over the past twelve or so years, but there are many more which give excellent insight into the world of swimming.



WORCESTER COUNTY SWIMMING ASSOCIATION Qualifying Times - County Championships 2010

BOYS EVENT	County (A) Qualifying Times			Short Course Pool (40% National Times)				
	9	10	11	12	13	14	15/16	17/ov
50m Freestyle	40.7	38.0	35.9	33.9	32.1	30.4	29.1	27.8
100m Freestyle		1:22.9	1:17.8	1:13.2	1:08.9	1:05.4	1:03.1	1:00.1
200m Freestyle	3:15.7	2:59.3	2:48.8	2:39.1	2:30.1	2:22.5	2:17.2	2:11.1
400m Freestyle	7:05.0	6:18.0	5:53.3	5:34.0	5:16.4	5:01.5	4:50.1	4:36.7
800m Freestyle				11:41.1	11:01.8	10:31.3	10:08.4	9:40.2
1500m Freestyle				22:01.7	20:52.8	19:55.5	19:14.0	18:21.9
50m Breaststroke	53.2	49.6	46.5	43.7	40.7	38.6	36.8	35.0
100m Breaststroke		1:48.1	1:40.1	1:33.8	1:27.4	1:22.7	1:19.1	1:15.1
200m Breaststroke	4:09.2	3:51.2	3:35.1	3:22.5	3:09.5	2:58.9	2:51.5	2:43.0
50m Butterfly	45.9	42.4	39.6	37.5	35.3	33.4	31.7	30.1
100m Butterfly		1:35.9	1:27.6	1:22.0	1:16.7	1:12.3	1:09.0	1:05.6
200m Butterfly	4:00.0	3:30.4	3:11.7	3:00.8	2:49.5	2:40.1	2:31.8	2:23.9
50m Backstroke	46.9	43.6	41.2	39.0	36.5	34.8	33.1	31.5
100m Backstroke		1:34.7	1:27.6	1:22.5	1:17.3	1:13.0	1:09.8	1:06.3
200m Backstroke	3:36.7	3:19.7	3:06.9	2:56.5	2:45.9	2:37.0	2:30.4	2:24.0
200m Individual Medley	3:41.7	3:25.1	3:11.0	3:00.5	2:50.4	2:40.7	2:34.3	2:27.3
400m Individual Medley	7:20.2	7:20.2	6:45.5	6:20.9	6:00.4	5:40.6	5:26.4	5:12.2
100m Individual Medley	1:43.8	1:36.2	1:30.9	1:26.0	1:20.7	1:16.0	1:12.9	1:09.0

GIRLS EVENT	County (A) Qualifying Times			Short Course Pool (40% National Times)				
	9	10	11	12	13	14	15/16	17/ov
50m Freestyle	41.1	38.5	36.5	34.7	33.3	32.4	31.7	31.3
100m Freestyle		1:24.6	1:18.7	1:14.3	1:11.5	1:09.5	1:08.3	1:06.9
200m Freestyle	3:17.6	3:00.4	2:49.6	2:39.9	2:33.6	2:29.6	2:26.6	2:23.2
400m Freestyle	7:11.4	6:22.2	5:52.9	5:33.0	5:20.5	5:12.5	5:06.2	5:00.5
800m Freestyle			12:09.5	11:29.0	10:58.3	10:40.8	10:31.0	10:21.0
1500m Freestyle			23:28.0	22:10.0	21:10.1	20:51.7	20:23.0	19:58.0
50m Breaststroke	54.2	50.0	46.7	44.0	42.1	40.8	39.8	39.1
100m Breaststroke		1:48.8	1:40.2	1:34.4	1:29.8	1:26.5	1:25.1	1:23.1
200m Breaststroke	4:11.7	3:51.5	3:34.9	3:22.4	3:12.8	3:06.7	3:03.5	3:00.2
50m Butterfly	46.5	42.4	40.1	37.9	36.4	35.2	34.4	33.9
100m Butterfly		1:36.0	1:28.0	1:22.4	1:19.0	1:16.3	1:15.1	1:13.3
200m Butterfly	4:03.6	3:32.8	3:13.9	3:00.7	2:52.6	2:46.7	2:43.0	2:39.3
50m Backstroke	47.3	43.8	41.4	39.3	37.7	36.5	35.9	35.1
100m Backstroke		1:35.2	1:28.1	1:22.7	1:19.2	1:17.0	1:15.3	1:14.0
200m Backstroke	3:38.8	3:21.8	3:06.3	2:56.3	2:49.6	2:44.8	2:41.1	2:37.2
200m Individual Medley	3:44.0	3:25.6	3:11.4	3:00.6	2:53.8	2:48.7	2:45.5	2:42.0
400m Individual Medley	7:19.7	7:19.7	6:43.6	6:19.9	6:03.9	5:53.8	5:47.3	5:40.6
100m Individual Medley	1:45.3	1:35.1	1:31.3	1:26.4	1:22.6	1:20.6	1:19.1	1:17.2

