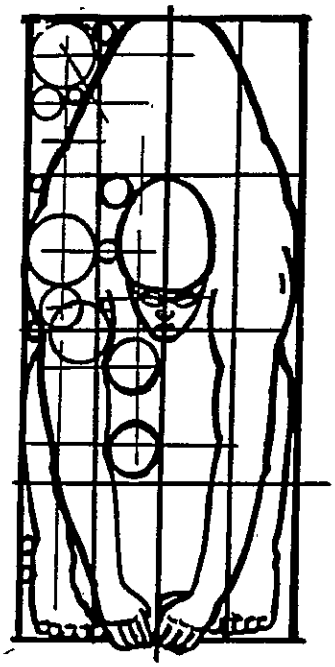


AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

VOLUME 7 NUMBER 4

NOVEMBER 1995

Over the past twelve months I have been privileged to observe a number of Australia's and indeed the World's, greatest coaches in action.

In the recent past it was standard practise for coaches to withold their 'secrets' to success. Fortunately for the growth of our sport we now live in more enlightened times and a common characteristic of the coaches I have seen has been their willingness to share knowledge.

Bill Sweetenham, former head coach at the AIS and the current National Youth Development coach is a 'must see'. I have learnt more from him in a short space of time than from anyone.

Scott Volkers relies more on instinct as a coach than scientific mumbo jumbo, and is always able to cut through the jargon to offer sound advise. What instinct he has too! Whilst others seem to struggle to hit the taper 'just right', the consistency of Scott's swimmers like Samantha Riley and Susie O'Neill amazes me.

Another coach really making his mark in this country is Bill Nelson. Bill is the former medley coach at the AIS and currently coaches Daniel Kowalski. His shift to Melbourne has already lifted the profile of Victorian swimming and his approach to coaching is quite interesting. Bill seems to perfectly synthesise the 'science' with the 'art' and is always on the lookout for new ideas.

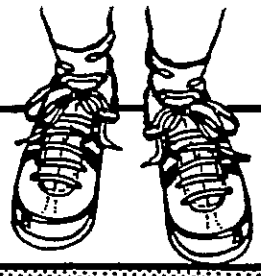
Bill is fascinated with the psychology of coaching and often seeks out coaches of other sports to find new approaches.

Since arriving in Victoria he has spent a season with one of the top NBL teams to observe the coach who he feels is one of the great motivators. He was particularly interested in how the coach dealt with the team when they were defeated in the final after a spectacular season.

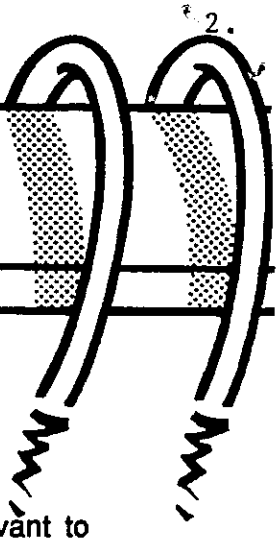
Whilst all this seems to be at the 'elite' end, I guess my point is that I have learnt volumes that I can modify and apply to my own coaching situation. The 'inquiring mind' is one of the greatest characteristics a coach can have and Bill certainly exemplifies this.

In this issue I have reprinted with Bill's permission, his article on 'Individualising Medley'. It is remarkably detailed and shows the forethought and planning that goes into successfully training for this event. In a world where the Medley is largely overlooked and rarely written about in any detail, this could be seen as a groundbreaking article.

Have a cheery Christmas and happy reading.



History of Masters Swimming



The following article is a potted history of AUSSI written by Jennie Mack from the Mackay Master Swimmers. It appeared in the March edition of the Queensland Branch's newsletter "Swimmers News".

As this year marks the 20th AUSSI Masters National Swim, it might be relevant to reflect on the history of Masters swimming, as there must be new swimmers who do not know how Masters swimming originated.

The first "Master" was Dr. J. Arthur Ransom from USA, who introduced Masters swimming to the world and gave older swimmers a new lease on life.

Back in the 1960's, he came to realise that adults who had been good performers in their prime did not have to potter around living on memories. If they still had their health and the taste for matching strokes with people of their own age, there was no reason why they should not.

He had wide experience in training and coaching people in the US Navy and many of his charges were well past their best, but they were sharp and they loved a challenge. It was clear to him that adults older than 25 years and beyondcould be healthy and inspired by the prospect of training for a challenge, so in the 1960's he put his case for a competitive programme to top US Sporting Officials.

They were cool to his idea, but in 1969 John Spannuth, President of the USA Swim Coaches Association, studied a report about the likely benefits of a competitive swim programme for adults an arranged for a National meet for over 25's at the Aquatics Club, Amarillo Texas.

Not too many competed, but the point was made. A second meet was held a year later and a scientific study showed that healthy older people could compete without adverse effects. The Masters Swim fever is the end result.

Dr Ransom passed away in 1989 and in 1990 he became the first Master swimmer elevated to the International Swimming Hall of Fame.

The first swim meet held in Australia on Master swim lines was in Sydney at Harboard Diggers indoor 25m pool, September 1972. The meet was organised by two winter swim association officials, John Ludlow and Brien Mortensen. John Brownjohn was the Swim Meet Convenor.

In 1974, a Master's swim competition with an international flavour was held at Heffron Park Maroubra, on Saturday 30th March.

Forty swimmers from the USA - 20 women and 20 men - under the management of Commander Richard H Rahe of the US Navy competed against 92 Australians - 23 women and 69 men.

Some of the names that swam at that meet were Australian Olympians Dawn Fraser, Elizabeth Fraser, Eve Whillier, Jon Henricks and Jon Donohoe, while Kevin Berry took photos for the media. For the Americans, other than Richard Rahe, Margaret George Samson would be most prominant.

After Sydney, the Americans travelled to Matamata, New Zealand and held a Masters competition with New Zealanders. Consequently, these meets were the catalyst that got Masters Swimming off the ground in Australia and New Zealand.

Australia and New Zealand held their first National meets in 1975. In 1976 Australia took a team of Masters to St. Louis, USA. In 1977 an Australian team toured New Zealand headed by Olympian Michael Wendon, and competed in the New Zealand National Swim in New Plymouth.

Canada hosted an International competition titled "The First Senior Age Group AquaticCompetition" in 1978. New Zealand hosted the unofficial First Arena World Masters Swimming Championships in Christchurch in 1984 with 1108 competitors participating from 16 countries.

The growth of Masters Swimming with the emphasis on fun, fitness and friendship has been rapid and sound.

Dr. Swim

Disregard the Following . . .

Swimming is simple—swimming advice gets complicated. How to ignore the right stuff.

By Terry Laughlin

Of *course* you're not happy with your swimming. You didn't know that "The most effective applications of propulsive force occur when the insweep and upsweep are made on a diagonal of 50 to 70 degrees...the patterns range in depth from 61 to 74 cm and in length from 29 to 45 cm." Well there you are. Now go try it.

That's a quote from a discussion of the freestyle armstroke, which plunges on that way for 18 (yes!) pages. It's in a volume entitled, with inadvertent humor, *Swimming Even Faster* by Ernie Maglischo, considered the premier sourcebook on technique. The volume is loaded with, among other things, minutely detailed descriptions covering every angle, degree, and inch of movement as the hand travels through water. Then Maglischo dispenses with body position—much simpler to teach and with far more improvement potential—in a cursory paragraph or two.

No wonder so many masters athletes are put off at the thought of regular swim workouts. The advice they get sounds like it's coming from a nuclear physicist. Swim coaches for adults are in short supply, leaving many people struggling to extract their technique tips from books like this. But even athletes with coaches can be swamped. As one complained recently to me, "I've been told a thousand different things about how to improve my stroke. How can you do them all well?"

You can't, of course, unless you do some weeding. Most books and articles treat swimming as a matter of getting in shape, telling you how to swim laps rather than how to swim them better. Even Masters coaches are known more for giving workouts than for instruction. But when they finally do turn to technique, wow! A demanding motor skill becomes as complex-sounding as brain surgery.

I teach technique to hundreds of adults each year, and I usually have just Saturday and Sunday to get them swimming smoothly and ready to coach themselves. We have time for what really matters, nothing else. And each year I've been coaching, a funny thing has happened: I've taught less than I did the year before, and my hundreds of cross-training students have improved more after the streamlining. Here's some common stroke trivia you're better off without: • Is your arm at a 30 degree angle as it enters the water? • How do you pitch your hand as you make the catch? • How high is your elbow as you begin your outsweep? • Are you making a good sculling motion on the insweep? • Do you have the coveted "S-stroke" yet? • If so, does your pull cross the body's centerline? • Are you accelerating your hand through the stroke? • Where is your palm facing as you finish the stroke? • Where is your elbow relative to your hand as you recover? • Where should you look while breathing? • Hey, where are you going?

Come back and try this. Focus on the simpler, and far more critical, job of adjusting your body position to minimize drag. In the scheme of speed things, it's at least twice as important as how your hand pulls you through the water.

If you get your body balanced (see December's column on "pressing the T"), then rotate your trunk and hips as you stroke, you'll move through the water pretty well, flawed stroke or no. Students at my camps have improved their speed and efficiency as much as 30% in two days, making scarcely any changes in their arm movements.

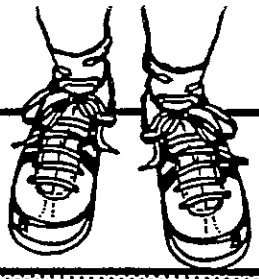
Here's the stroke-made-simple lesson: Slice your hand in as soon as it passes your shoulder, extend it to the front as far as you can, take your time about beginning your pull, and pull straight back under your body, neither too deep nor too close to your trunk. Then take your hand out of the water and do it again. You're swimming fine.

Are there useful refinements? Of course. But they pay off far more if you're eyeing a berth on the Olympic team. Consider this: The typical novice is maybe 10 to 20 percent as efficient as a world-class swimmer, but can close most of the gap—to maybe a 20% spread—by simply improving body position, rotation, and alignment. Working just on that can easily deliver a year's worth of progress. Then you can begin to think about your hand pitch and path, which may grudgingly yield another 10 percent gain after just as much work.

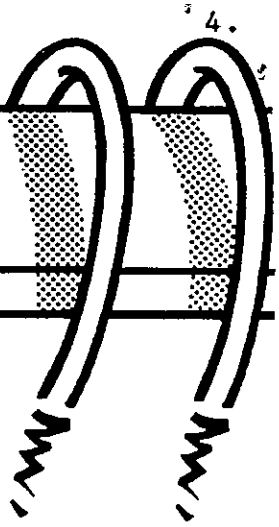
Basic, sound swimming comes down to this: Lean into the water with your upper trunk (to balance) so your suit is just breaking the water; rotate your hips around your spinal axis (to propel), getting them completely out of the way as each hand passes by; and think of your arms more as extenders for increasing the length of your body line—which automatically makes you faster—than as pulling tools. Any questions, call me. □

Coach Laughlin holds his Total Immersion Masters Swim Camps and vacations throughout the year. For information, including the February Swim n' Ski week in Colorado, call him at (914) 294-3510.

***Excellence implies more than competence...it implies a striving for the highest possible standards.**



For all Those Born Before 1945



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For all those born before 1945

We are Survivors!!
Consider the changes we have witnessed:

*We were born before television, before penicillin, before polio shots, frozen foods, Xerox, plastic, contact lenses, Frisbees and the Pill.

*We were before radar, credit cards, split atoms, laser beams and ball point pens: before pantyhose, dishwashers, clothes dryers, electric blankets, air conditioners, drip-dry clothes and before man walked on the moon.

We got married first and THEN lived together. How quaint can you be?

*In our time, closets were for clothes, not for "coming out of". Bunnies were small rabbits and not Volkswagens. Designer Jeans were scheming girls named Jean or Jeanne, and having a meaningful relationship meant getting along well with our cousins.

*We thought fast food was what you ate during Lent, and Outer Space was the back of the Riviera Theatre.

*We were before house-husbands, gay rights, computer dating, dual careers and computer marriages. We were before day-care centres, group therapy and nursing homes. We never heard of FM radio, tape decks, electric typewriters, artificial hearts, word processors, yogurts, and guys wearing earrings. For us, time sharing meant togetherness - not computers, or condominiums: a chip meant a piece of wood, hardware meant hardware and software wasn't even a word!

*In 1940 "made in Japan" meant JUNK and the terms "making out" referred to how you did on your exam. Pizzas, MacDonalds and instant coffee were unheard of.

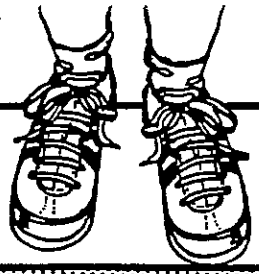
*We hit the scene when there were 5 and 10 cent stores, where you bought things for five and ten cents. For one nickel you could ride a street car, make a phone call, buy a Pepsi or enough stamps to mail one letter AND two postcards. You could buy a new Chevy Coupe for $600...but who could afford one? A pity, too, because gas was 11 cents a gallon!

*In our day, cigarette smoking was fashionable, GRASS was mowed, COKE was a cold drink and POT was something you cooked in. ROCK MUSIC was a Grandma's lullaby and AIDS were helpers in the Principal's Office.

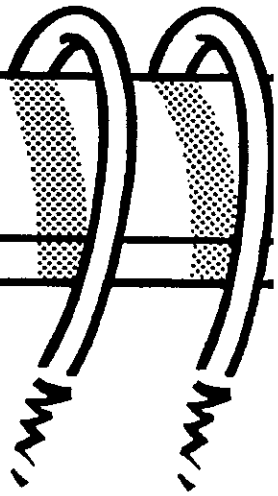
*We were certainly not before the difference between the sexes was discovered, but we were surely before the sex change: we made do with what we had. And we were the last generation that was so dumb as to think you needed a husband to have a baby!

*No wonder we are so confused and there is such a generation gap today!

*BUT WE SURVIVED!!! What better reason to celebrate?



HEART RATE MONITORING * PART II



by Kevin Polansky

Part 1 of this article appeared in the August issue. It has been reprinted from the Internet.

In my last article I stated that swimmers are learning from other aerobic-based sports about a new scientific breakthrough for more optimal training. By using a heart rate monitor, all swimmers can more easily determine their specific training level and consequently produce a desired level of physical fitness.

Having determined your resting heart rate (RHR) and your maximum heart rate (MHR), you can use a few simple calculations to determine your specific training level. Each level has its specific benefits. With the help of your coach, you can develop a training program oriented to your individual distance and stroke preferences.

As mentioned in Part I, the five levels of training specificity for swimming are:

*Moderate to Easy: 50% to 60% of your MHR
*Weight Management: 60% to 70% of your MHR
*General Aerobic: 70% to 80% of your MHR
*High Aerobic Threshold: 80% to 90% of your MHR
*Anaerobic or Red-Line: over 90% of your MHR

Over the last twenty years, I have seen numerous training techniques and philosophies come and go... especially in Masters swimming. Since Masters swimming has little or no research to back our training philosophies, many of us have been training as we did while competing on the high school, club, or college levels. We often attempt to continue training with the same intensity that we exhibited in our younger days. Yet as we get older, we must take into account the ageing process. Using a heart rate monitor will help us to train with better results and will keep us from "overtraining."

Yet how can we tell that overtraining is taking place? Very simple. Take your RHR every morning and look for significant changes. If your RHR has dropped from the initial monitoring, rest assured that you are getting stronger and swimming faster. If it has risen approximately five beats per minute above your initial RHR, you may be experiencing the following:

1. Overtraining or fatigue. It usually takes from 24 to 96 hours to recover fully from a workout depending on the swimmer's training levels and time spent in those levels. Obviously, a swimmer training for only 20 minutes at the Weight Management level will usually recover more quickly than a swimmer training 30 minutes at the High Aerobic Threshold level.

2. Health-related problems. Watch out for sickness, injury, fever, and other stress-related problems. While using my heart rate monitor in a workout this past winter, I noticed that my heart rate was unusually high for a normal warm up. I proceeded to have one of my worst workouts in months Not only was I unable to swim for long, I was unable to swim very fast, and I quicklyh became frustrated. As expected, less than eight hours later I came down with a sore throat and fever which turned into strep. throat.

To train more specifically to your optimal range, you must monitor your own heart rate rather than comparing your efforts with another. Resting heart rate values can vary as much as 50 to 60

beats per minute between two people of the same weight, height, age, and sex. Although you may be warming up at the same speed as your partner, you may be in the Easy to Moderate range (50% to 60% MHR) while your partner may be swimming at the High Anaerobic Threshold level (80% to 90% MHR).

So that you may better understand the five specific levels of training, here is a brief and simple explanation of each:

1. MODERATE TO EASY (50% to 60% of MHR)
This level of training may seem to be very easy and relaxed. That's because it isss! Unfortunately, many swimmers believe the misperception that because we feel we are not working hard or breathing hard, there must not be any training benefits. Not true! Exercise physiologists, trainers, and coaches are using this level more and more due to its warm up and recovery effects.

Adults starting a training program should begin by swimming at this level. Experienced Masters should be using this level for warming up, cooling down, and for relaxed recovery swims between or after very high intensity swims (high aerobic threshold or red-line swimming). Generally, 10% to 15% of your training should be at this level.

2. WEIGHT MANAGEMENT (60% to 70% of MHR)
Research has shown that at this level, your body reaps the benefits of burning fat while improving on your aerobic fitness. Stroke drills and moderate-effort long swims with short rest period are ideal for this level. Much of your base training in early season should fall in the Weight Management level.

A good indicator of training at 60% to 70% of MHR is in being able to talk with your coach immediately following your swim without having to catch your breath in mid-sentence. Roughly 20% to 45% of your training should fall in this zone, depending on the phase of your training season.

3. GENERAL AEROBIC (70% to 80% of MHR)
General Aerobic swimming is also known as endurance base training. At this level, your body produces lactic acid equal to your body's ability to remove it. Training in this zone will give you the benefits of becoming fitter, stronger, and faster. Roughly 40% to 50% of your training should be General Aerobic.

An example of a main set would be one in which your heart rate would decrease by 10% between repeats. Depending upon age and fitness level, this may be a rest of 10 to 60 seconds between repeats.

4. HIGH AEROBIC THRESHOLD (80% to 90% of MHR)
During this training zone, your body changes from aerobic training to anaerobic training. You will feel the pain of training hard and experience fatigue, tired muscles, and heavy breathing. Those who swim against the clock and are competitive with their fellow swimmers should train in this and the Red-ine zones.

During sets at your high aerobic threshold, you will need more rest to recover from each swim. Your work to rest ratio might be 2:1 or 1:1. You need not do much High Aerobic Threshold training at the beginning of your training season. Near the end of your season, you may wish to do as much as 30% of your workout in this and the Red-ine zone.

5. ANAEROBIC OR RED LINE (Over 90% of MHR)
In order to become extremely fit and to prepare for racing, you must train in this zone. You willl experience oxygen debt as you train your speed (fast-twitch) muscles for competition. You will feel the intense pain in your muscles as you give 100% effort.

Your work to rest ratio will be anywhere from 1:1 to 1:6 or even higher. Since the intensity is so great, you will be unable to maintain this speed for very long. Like the High Aerobic Threshold level, you will do very little of this training in early season and increase during tapering to roughly 30% of your total yardage, combined with the previous level.

My personal experience has shown that using a heart rate monitor enables me to get in better shape faster and with less fatigue than in years past. Who knows -- maybe it can do the same for you!

Kevin Polansky resides in Loveland, Colorado where he has coached high school swimming for 20 years and was named High School Coach-of-the Year on four occasions and won numerous state Titles. He holds 8 Masters world records and 10 USM national records in the 40-44 age group.

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TAILORING A PROGRAMME

A COACHING SEMINAR WITH ANITA KILLMIER

A transcript of this 2 day seminar conducted by AUSSI Tasmania is now available in booklet form to all members. Cost is $5.00 which includes postage and all monies go directly to purchase more videos for the AUSSI Resource Centre.

The booklet is also available as a video to borrow from your branch or the Resource Centre, and contents include;

- Elements of physical fitness
- Energy systems used in swimming and how to train these systems for specific events.
- Pulse Rate Counting
- Goal Setting
- Devising a seasonal plan.

To purchase your copy just write to the address on the last page of this newsletter.

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TIME AND TIDE

If you had a bank that credited your account each morning with $86,400, that carried over no balance from day to day, allowed you to keep no cash in your account, and every evening cancelled out whatever part of that amount you failed to use during the day, what would you do?

Draw out every cent of course! Well you do have such a bank and its name is "time". Every morning it credits you with 86,400 seconds. Every night it rules as lost whatever of this you have failed to invest to good purpose! It carries over no balance and allows no overdrafts. If you fail to use a day's deposit, the loss is yours. There is no going back, no drawing against tomorrow. So, invest your seconds so that they will give you the utmost in health, happiness and success.

If the athlete / sportsman does not respect the coach... or agree with what is being taught... then negative attitudes will...(inhibit) the effectiveness of the coach. SINGER 1972

Get to know your Lower Back

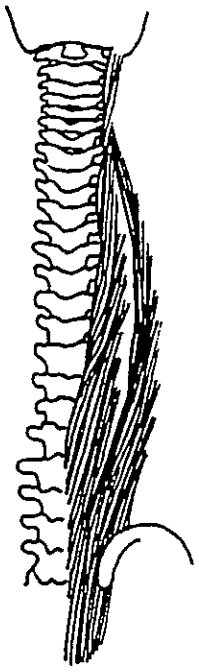
by Deb Merrill

Back pain is epidemic in our country and there is no simple reason why, or cure.

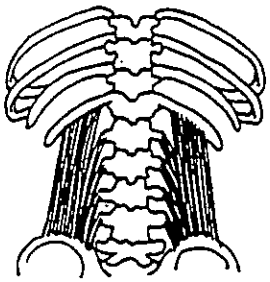
A typical athlete may spend their day sitting in a chair at their job. Long periods of sitting result in restricted blood circulation in the muscles, slouched posture, and tense shoulders. An old injury from an accident, fall or heavy lifting may gradually get worse if you are tense, tired, standing or sitting for long periods of time. Muscle tension, especially asymmetrical tightness, is amplified with high training intensity.

The shock absorbing discs between each vertabra start to compress unevenly when tight muscles pull on the spine. Nerves get compressed by bulging discs and major pain sets in. Remember...the bones do nothing by themselves. Muscles, tendons and ligaments are what pull your bones out of position. Treat your back pain before it gets out of control.

Below are some common muscles involved in back pain. Triggerpoints from these muscles can refer pain to other areas, making the source of your pain a bit of a detective job.

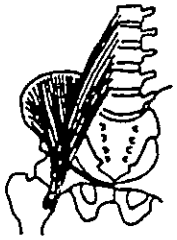


Erector Spinae, Back view



Quadratus Lumborum
Back view

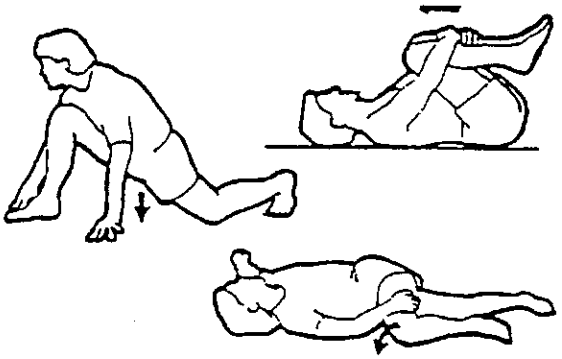
Gluteus Medius
Back view, right side



Iliacus and Psoas
Front view, right side

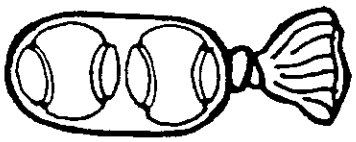
If your back is painful and inflamed, apply a cold pack wrapped in a damp towel for 5-10 minutes and repeat frequently. Cold reduces swelling and anaesthetizes the muscles. If your back feels stiff and tight, try heat applied with a hot water bottle, hot bath, or warm damp towel.

Regular stretching can keep your back flexible and balanced. The following stretches are just a beginning. Consult with your neuromuscular therapist, physical therapist or doctor for a more in-depth and personal back care program. Removing triggerpoints, maintaining good muscle tone, flexibility and strength are all important.



Poor posture can greatly aggravate back problems. While standing, avoid locking your knees back. This puts pressure on your lower back. While lifting any object, heavy or light, bend your knees, keep your back straight, and hold the object close to your body. While sleeping, avoid curling up tightly in a ball. Try sleeping with a pillow between your knees and lower legs to balance your hips. Avoid sitting for any period of time with a wallet in your back pocket. Sit down to put on your pants and socks. Balancing on one leg overloads the hip muscles.

My favorite self-care treatment for the back is tennis balls. Knot two tennis balls tightly in a sock. Lie back on a rug and slip the balls sideways between your shoulder blades. Keep your knees bent. The small space between the balls is the perfect size for the spine of your backbone to slip into. Rest a few seconds, then inch your body forward so the balls rest an inch below the first spot. Feel your muscles relax under the pressure, then move onto the next spot, all the way to your buttocks.



Deb Merrill is a certified neuromuscular therapist in Brunswick, Maine. She is on the teaching staff of the St. John neuromuscular seminars and specializes in sports injuries. Deb is an Ironman triathlete and uphill racer.

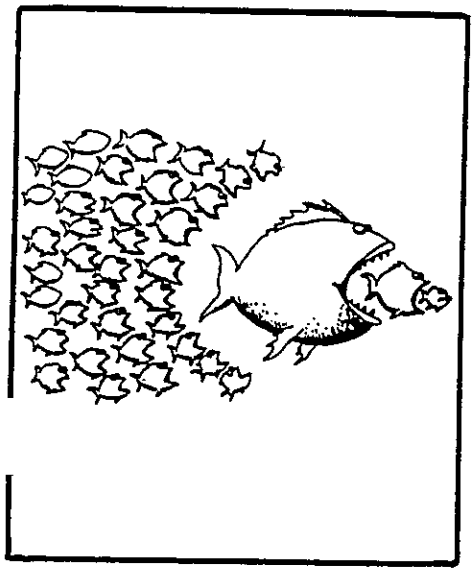
The **AUSSI** Purpose is: "To encourage adults, regardless of age or ability, to swim regularly in order to promote fitness and improve general health."

Management tip of the month

In this modern comerical world, stress affects most of us at some point in time. If you feel under greater stress, try the following techniques to get yourself back into stride:-

- improve your posture - have you noticed that you begin to slouch when you get a stress-initiating telephone call? - sitting upright and erect can help - try it!
- drink water - getting up and grabbing a glass of water can relieve mounting tension, and medical authorities tell us water is good for us.
- sit still - think of something pleasurable that you are going to do today.
- volunteer - helping others increases your self-respect and sense of accomplishment.
- discuss a problem - often a problem shared is a problem halved, or if you're lucky, solved.
- clear your in-tray - each piece of paper that enters your in-tray is a potential "mutineer". Deal with each piece separately and decisively . This will give you a sense of achievement and accomplishment.
- remember you are not your tasks, they do not define you and they do not constrain you.

(Adapted from the US magazine, National Public Accountant)



"Leisure? I've tried golf, walking, bowling, swimming, skiing and dining out—I prefer dining out!"

F JN:

The Missing Element in Your Club's Workouts ?

David Tree - Editor Canadian MSC News

In the pursuit of the ultimate fitness or competitive swim programme, is there any time for FUN ? Expensive pool time can't be wasted, so sometimes the FUN component of training is reserved for dry land social activities. What can be done to put FUN into workouts you ask ?

The University of New Brunswick Masters has over 50 members who vary in age from 20 to 80. We train four times a week in a six-lane, 25 meter pool (our pool is "L" shaped with a large diving tank available as well). Though some club members have held national and World records, the majority of members are in the sport for fitness. The challenge for our coaches, J.P. Graham and Erica Cameron, is to provide an overall training plan that balances fitness, competitive skills and FUN ..... without wasting pool time. At least every second week, we have a day of FUN. Sure, we work hard, but we get to pick what we swim by the luck of the draw. The intensity and time allowed for each set varies by lane, but all lanes participate in the FUN day. You never know what you will be swimming next. A few examples of the FUN that we have are:

Playing Cards

The coaches provide an outline showing what the set will be, depending on the card drawn. A different outline is used every time we play this game. There is usually one easy set (that everyone hopes for?) and a mixture of moderate and hard sets. During a one-hour workout, we have time to draw at least three new sets. The coach carries a towel to allow swimmers to dry their hands before drawing a card. Swimmers take turns drawing. Everyone wants to draw a set that will be popular. The colour of the suit enters into the formula as well. (On another day, a red suit might mean kicking. On yet another day, red cards might mean an IM set.)

Red	=	AOS (any other stroke)
Black	=	Freestyle
Ace	=	2 X 300 metres on x:xx
2	=	4 X 100 metres pull on x:xx
3	=	16 X 25 metres on :xx (off the blocks)
4	=	1 x 600 metres
5	=	8 X 50 metres on :xx
6	=	6 X 50 metres kick on x:xx

and so on .....

Dice

Similar theme to that above. Two dice are thrown and the resulting total (between 2 and 12) results in different sets. The appropriate times for each lane are listed beside the number on the sheet that the coach carries.

Dart Board

The coach writes out sets (with different times for each lane) on small pieces of paper, then folds them and tapes them to a dart board. Swimmers stay in the water and take turns throwing darts to pick their next set. Amazing how many people miss the board on their first throw! (Coaches: DON'T hold the dart board - prop it up against the wall or a bench.)

Lucky Bag

Before warm-up, each swimmer is asked to write down his/her favourite (or worse) 400 to 600 metre set. Any strokes or combinations may be used, including drills. Then, after warm-up, swimmers take turns drawing a slip of paper and use it as their next set. Suitable times are assigned by the coach for each lane. This actually works better than you might expect. Rarely do people put down kick or drill sets, though sometimes Butterflyers can be cruel !

Communicated by Internet

INDIVIDUALISING MEDLEY

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PLEASE NOTE: Copies of back issues of The Australian Masters Swimming Coaches Newsletter are no longer available. Anyone wanting reprints of articles will need to beg, borrow or steal off fellow swimmers.

INTRODUCTION

The Individual Medley (IM) as an event was introduced on the international scene at the 1964 Olympic Games in Tokyo. A review of Australia's performance on the international and national scene, both past and present, shows that the IM has not enjoyed the same amount of success as other events. However I do not believe this can be blamed on the fact that Australia does not possess the talent, but more likely, there has been a greater degree of interest in single stroke training programs.

An accomplished IM swimmer must have sound techniques, well developed speed and a solid endurance base in all four strokes. All disciplines concerned with the pursuit of excellence in the IM should be associated with the concept that it is an event, and not just the collection of four strokes performed in a sequence.

The IM is certainly one of the most exciting events on the competition program. With all four strokes systematically involved, the combination of all energy systems, the pacing strategy, and the training necessary to support the international swimmer, the IM events have become very specialised and demanding for both coach and athlete. Therefore the philosophy should be that the race is a total unit, swum with specific individual strategies, and trained and rehearsed as such.

Although one has to train all four competitive strokes with equal enthusiasm and discipline, the probability of success will be enhanced if the program is designed around the four individual strokes and the ability to put them together. Over the years, the comparison between IM swimming and track and field's decathlon has been discussed by many. The need for competitors in both events for all-round excellence in strength, speed and endurance is generally acknowledged.

Australia, and to a certain extent world swimming, has always had some people who have been able to achieve reasonable success in the IM events via specialised training for single stroke events. But for the real success in IM swimming it should be viewed as a specialist event requiring specialist training. This is dependant on the acquisition of a broad base of skills, developed in a tactical and systematic manner, with the main goal being the total development of the individual swimmer.

IM training is very important to the long term development of all swimmers regardless of whether they swim at local, regional, state, national or international level. IM training provides a great deal of variety, keeps both the swimmer and coach stimulated and motivated in training sessions and allows the coach a great deal of variety and flexibility in the design and implementation of the training program. Preparation for the IM is the most stimulating training of all competitive events. The challenges are many and varied but the pursuit of a career as an IM swimmer will provide the athlete with the most exciting and demanding program of any swimming event.

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"Aim so high you'll never be bored. The greatest waste of our natural resources is the number of people who never achieve their potential. Get out of that slow lane. Shift into that fast lane. If you think you can't, you won't. If you think you can, there's a good chance you will. Even making the effort will make you feel like a new person. Reputations are made by searching for things that can't be done and doing them. Aim low; Boring. Aim high; Soaring."

TRAINING PREPARATION FOR THE INDIVIDUAL MEDLEY

As with all competitive sports programs, success will be influenced strongly by the coach's philosophy and the training program developed. This is certainly emphasised when we look at the long term development of the IM swimmer. The total integration of all aspects of the training program related to IM swimming places a lot of responsibility and time constraints on the coach. For the program to be successful, the coach must be fully committed to the development of the IM program, experienced and successful in all areas of stroke technique, and must be dedicated to see the implementation of all aspects of the IM training program.

In the early years of the swimmers development the 200m IM should be the main competitive focus, and then as the aerobic endurance base begins to take shape the emphasis moves towards the distance freestyle and 400 IM events. When the swimmer has fully matured then the emphasis returns back to the 200 IM if that is where the preference lies.

ATTRIBUTES OF AN IM-ORIENTED PROGRAM

If we are to look at the long term development of all our young age-group swimmers, then I believe it is imperative that their training in the early to mid-development and competitive years be directed towards the IM program. Therefore we should look upon the majority of our younger swimmers as IM swimmers.

This coaching philosophy will have the following long term benefits to the program:

1. Provide all swimmers with correct technique and skills in all four competitive strokes.
2. Develop an effective aerobic endurance base in all four competitive strokes.
3. Provide a continuous flow of IM prospects into the training group without detracting from the individual strokes.
4. Delay unnecessary early specialisation of single stroke training and racing.
5. Avoid the development of overuse injuries from repetitive swimming of single strokes.
6. Improve flexibility and co-ordination.

Basically the IM program provides a swimmer with the ideal base from which to build a long and successful career in all events associated with competitive swimming. As with all other events, there are certain aspects of any athlete's make-up that indicate a bright future. However, I believe it would be incorrect to think that IM swimmers must possess certain physical or physiological characteristics in order to reach international standard. There many variations in their physical and psychological make-up. If you name any of your five favourite swimmers, you will find that physically they are different, their training programs are different, and their diets are different.

However, we can look at certain physical and psychological traits that are associated with success in IM swimming. These are some of the few similarities that exist amongst the better IMers and certainly should be looked at carefully.

Physical/Technical Attributes of the IMer:

1. Arm length in relation to body length (long arms)
2. Trunk length in relation to leg length (long bodies)
3. Lower leg(tibia) tends to be concave.
4. There are no weak strokes.
5. They can vary their race tactics depending on the race situation

Psychological attributes of the IMer

1. A mature, committed and enthusiastic approach to training and competition.
2. Preparedness to be open minded and challenged.
3. Patience in understanding that for long term benefits, some short term results must be put 'on hold' so that a long-term training process can be instigated.
4. They are a student of the sport (they know the strengths and weaknesses of their opposition).
5. They can control their emotions.

Many athletes can and will be successful in a competitive training program without all the attributes outlined above. It is impossible, however, for anyone to be successful without a properly designed program for long term development and improvement.

MODEL OF DEVELOPMENT PLAN

In designing the program for IMers or other swimmers, the program must suit the needs of the athlete, without necessarily changing the individual to suit the needs of the program. In the plans that I will outline, I am looking at the development of the 400IM; the 200 IM usually evolves out the 400IM as the swimmer matures and develops. However in the initial development stages the competitive emphasis is oriented towards the 200 IM.

The long term development plan will be outlined in four levels. The length and time spent on any one level should be determined by the athlete's physical maturity, and the attainment of all necessary skills that allow the transition into the next phase to be smooth and comfortable. The athlete's program should not be determined by other aspects such as suitability of training times and external considerations. As this plan does depart from the normal age-group program it is imperative that the philosophy and long-term benefits of the program is communicated to all swimmers and parents.

LEVEL 1 - Preparation

This level starts at the athlete's earliest stage of development (i.e. first level of elementary coaching). The major areas of development in this phase are:

The formation of the base for the development of aerobic capacities.

The acquisition of proper technique and skill development in all four competitive strokes. This is single most important aspect of any athlete's development plan.

The earliest possible development of technique in all four competitive strokes is the foundation on which a swimmer's competitive abilities will be developed. Without the proper technique an athlete's future is certainly limited.

The early teaching of the good technique is of great benefit to the athlete's career in both the short term and long term. The combination of long-slower swimming with correct technique is the base on which all other aspects of the athlete's development will be built. It is very important at this time for the coach to communicate with their swimmers that is not necessarily the most skilled swimmer that wins the races at this level but sometimes the athlete who is a little stronger and bigger. Many champion age-group swimmers are not necessarily successful at the older ages and elite levels.

The coach must point out the obvious long-term benefits of training at a reduced workload that create the ideal base from which the long term competitive stroke can evolve. It is important to communicate to the athlete at this stage of their career that the focus should be

on slow sustained swimming with correct technique. The difference between sustained or continuous swimming as compared to distance training is that the latter is usually oriented by the equation time over distance.

The program should include all aspects of stroke development (e.g. full stroke swimming, kicking, stroke drills and pull. All four strokes should be covered but with the underlying philosophy that it is technique and skills that are trying to be developed. The main competitive emphasis at this level is the 200 IM. The elevation of an athlete to Level 2 should be dictated by the areas pointed out earlier but this is usually as they approach peak growth rates - i.e 11 and 12 years for girls and 12 and 13 years in boys.

LEVEL 2 - Development

The main emphasis of this phase is the further development of aerobic capacities. Although there is still a strong development of all four strokes, the importance of overdistance freestyle training takes on a greater role. The coach must understand that it is the philosophy of developing the 'aerobic base' at this stage that will give the necessary foundation for further advancement in other strokes at the next level.

The aims of this level are:

i. Development of an endurance freestyle base
ii. Introduction of aerobic training in the other strokes
iii. Formation of specific goals for this period
iv. Introduction of flexibility program

The competition program is also oriented towards the longer freestyle events. If we are to look at many great IMers, it is obvious that the endurance background cannot be underestimated. It will also show that the early competitive years involve the middle distance and distance freestyle events, and most swimmers continue to maintain the distance freestyle events in their competitive program. The constant refinement of stroke technique and skills continues to be emphasised.

As the competitive program expands, it is vital to stress the importance of swimming fast with good technique as the common goal, and NOT just swimming fast. This is certainly one area of the athlete's development that needs to be pointed out to parents so that they understand fully the implications for the long term development of their child's swimming career.

As this level usually begins at around the same time as the major growth spurt, it is vitally important for the coach to observe carefully technique to see that it is not hindered or altered in any way by the changes in the athlete's physique. As the athlete's body changes so will the strength and flexibility ratios. The body may make compensatory changes to counteract these.

The continuing progression up to Level 3 should be determined by the athlete's physical maturity and attainment of necessary skills and technique. In most cases this will take somewhere between 2.5 and 3.5 years after the commencement of organised training.

LEVEL 3 - Specialisation

This level brings together the real backbone of medley swimming.

i. The continued improvement of the endurance freestyle program.
ii. The attainment of a well-developed endurance base in all four competitive strokes.

iii. The continued refinement and specialisation of stroke and skill technique.
iv. The incorporation of racing the 200 metre events of all three form strokes as well as the middle and distance freestyle events.

If we are to develop the base to swim great 400 IMs, it is vitally important to increase the distance of form strokes swum during this phase. Although an IM can be swum off a distance freestyle background, it must be realised that it will be far more effective with the attainment of a solid base of aerobic endurance in the other strokes.

Once again, the distance swum should be determined by the physical capabilities of the athlete i.e.. the ability to swim these distances in training with sound technique; it is no good swimming long distances with improper technique.

The increase in distance should be carefully planned and monitored at all times.

As this is the most specific phase of the long term plan, the emphasis on stroke technique should switch from development to refinement.

The basis of the stroke should be firmly in place - it should now be refined to mirror the desired racing technique. The emphasis should be on distance per stroke - efficiency of the stroke - swimming.

As this is the level for developing the IM as a race, the importance of racing the 200 metre event is stressed. Over a period of time, strengths and weaknesses of the individual strokes will begin to show through. The basis for swimming the 200 metre events is to look at the second hundred split and to develop and refine it so as to mirror the 400 IM split time. With the weaker strokes, it is important to develop and refine these and not just favour the stronger or faster strokes.

One must be careful at this stage not to get carried away with the total time of the IM but to look at the four splits in relation to PB 100m times and to the second 100m of the 200m time. Refine the paces and splits so that the overall times will continue to improve and not plateau. The attainment of goals in this stage is usually reached after 2-3 years of training at Level 3. Once again look at the physical maturity and skill acquisition of the individual involved.

LEVEL 4 - International

This is the final stage in the development of the medley swimmer. It involves the four strokes coming together successfully to produce the desired result of medley swimming. This does not necessarily, in the first instance, mean a specific time or placing in a particular race.

The aims of this level are:

i. Develop a season training plan
ii. Designate the 200 and 400IM as the main competitive focus.
iii. Refine racing technique and skills
iv. Training emphasis should be event specific including splits, stroke rates and counts.

It is more directed at the attainment of specific skills and stroke rates and counts, and the ability to switch effectively from one stroke to the next. The ability to change strokes is one of the great attributes that medley swimmers possess compared with their single stroke counterparts. The adjustment from one stroke to the next usually takes 20-30 seconds, causing the first 50m to be usually slower than the second. The ability to change from one

stroke to the next is something that should be developed right throughout the athlete's career, but must be totally refined during this particular period of the training plan.

The next step in the model is to integrate all strategies and skills so as to reach the desired outcome at the pre designated major event.

SPECIFICITY OF TRAINING FOR THE IM

It is important to understand that there are some general training principles related to IM swimming.

Probably the first and foremost principle is that the IM is an endurance based event and must be coached and trained that way.

Because of this high level of endurance swimming and the training principle of stroke efficiency it is vitally important that the coach monitors the technique of all swimmers at all times. It is a necessary skill for the coach to be able to differentiate between the breakdown of technique due to fatigue and breakdown of technique due to a technical deficiency.

The ability of the athlete to train at proper stroke rates and counts cannot be underestimated. The IM is very tiring event, and therefore the strokes must have high level of efficiency and control. This must be emphasised in every session. Remember the old adage:

Practice does not make perfect
Perfect practice makes perfect.

STROKE SPECIFICS AS THEY RELATE TO THE IM

Since IM consists of a combination of all four strokes there are some specifics of stroke techniques that need to be outlined.

Butterfly

The training of the butterfly stroke is oriented around length of stroke and smooth and fairly flat technique. The main skill for butterfly when relating it to the IM is that you want to be able to swim the fly leg fast but at the least amount of effort or cost possible.(ie. efficiency of stroke technique) is emphasised.

The most commonly asked question in relation to butterfly training is how long should the repeats and sets be. The best and most common sense approach is the distance of sets and repeats is determined by the quality of technique. It is of no use swimming long hard fly sets if the standard of the technique is falling away.

Butterfly training can be done using fins which does aid the swimmer in their ability to hold their stroke together better. A good way to keep the quality of technique up during the endurance phase is to swim a lot of your fly repeats as drills, or swim longer sets of shorter distances e.g.

e.g. (i) 40 x 25m on 15 secs rest, 1 min after each set of 10
(ii) 20 x 50m on 20 secs rest
(iii) 3 x 600m on 1 min rest : 600 Bk every 4th 50 Fly
: 600 Bk every 3rd 50 Fly
: 600 Bk every 2nd 50 Fly

Backstroke

Backstroke training for the IM can be done in two ways. Firstly, full stroke or normal backstroke with the legs being used as a propulsive kick. The second is more specific for the second half of the backstroke leg and that is training backstroke using a band to tie your ankles so that swimmers learn to maintain speed by using arm-dominated swimming and your legs are used to balance the stroke. This second skill is very helpful in the later half of the backstroke, so that the swimmer can maintain their speed by using arms only and saving the legs so that they can be used during the first leg of the breaststroke.

Combination type training sets that help this type of skill are:

12x100 with 30 secs rest
(i) Pull 25 meters backstroke, kick 75 breastroke
(ii) Pull 50 meters backstroke, kick 50 breaststroke
(iii) Pull 75 meters backstroke, kick 25 breaststroke
But sprint the middle 50 meters (e.g.25 backstroke pull 25 breaststroke kick). This set is done just using a pull buoy, no bands or paddles.
(iv) Pull 20x50 BK band around ankles - no paddles

Breaststroke

There are two different types of breaststroke for the two different IM races: the breaststroke in the 200 IM is a lot higher and with a narrower arm pull and a stronger kick, where as the breaststroke in the 400 IM is swum with a lot flatter body position and a wider arm pull and longer glide. As with the backstroke, breaststroke training is divided in two areas of competitive strategy. It is an objective of the training program to incorporate both styles of breaststroke so that the athlete may develop both styles and become skilled in the ability to change from one to the other when required

When doing a lot of longer endurance type breaststroke sets it is also very important to watch that the timing of the stroke and to ensure the standard of the technique does not fall away. The use of fins during these longer breaststroke sets adds variety and can also help with the fluency of the stroke.

Freestyle

In the early stages of developing the much need aerobic base it is far easier and far more productive to introduce endurance training with freestyle than any of the other three strokes.

As with backstroke, the band only pull drill is also important with the freestyle program, as many times there is not a lot of 'fuel left in the tank' at the end of a 400IM. It may be difficult to incorporate a six beat kick because of the heavy cost on the legs during the breaststroke leg - therefore the ability to maintain your speed by using you arms can be very advantageous.

I would like to suggest that it is a well trained IM swimmer that can six beat kick all the way on the last freestyle lap. It is important to continually reinforce the use of the legs during longer freestyle sets and ask your swimmer to practise six beat kicking the last lap of every freestyle repeat.

The program for the IM swimmer should cover all areas of modern training principles in all four strokes:

TRAINING METHODOLOGY

Straight stroke swimming

This can include a wide variety of distances and intensities, but it is very important to do some overloading in single stroke oriented workouts. Single stroke swimming is usually done in the early non-specific aerobic phase of the training season.

e.g
Endurance
5 x 400 Backstroke on 30 secs rest
Quality
6 x 100 breaststroke at 400 IM race pace.With 3 mins active rest after each
Sprinting
12 x 50 on 1.30. Dive and sprint 20 meters butterfly.

These types of repeats can be done doing pull and kicking sets

Switch stroke swimming.

This is usually done in straight IM order so that the body gets used to swimming the event in the correct order and with the levels of fatigue that are associated with each of the specific strokes.

e.g.
1200 meters 4x100 IM, 2 x 200 IM,1 x 400 IM

This type of set is usually done towards the end of the general aerobic phase of the season, just prior to the specific phase of the preparation. Once again this type of set can be done doing either pull or kick sets.

Specific switch stroke swimming

For a swimmer to be successful in the IM event this type of training is vitally important, the ability to be able to change from one stroke to next effectively whilst maintaining your speed from the last stroke is the benchmark of a good IM swimmer.

e.g.
Endurance

3 x 100 with 10 secs rest 50 butterfly 50 Backstroke
3 x 150 with 15 secs rest 75 backstroke 75 Breaststroke
3 x 200 with 20 secs rest 150 Breaststroke 50 Freestyle
1 x 400 IM

Quality

2 x 3 x 150 (i) 100 Butterfly fast 50 backstroke at race pace
4:00 mins (ii) 100 Backstroke fast 50 breastwork at race pace
active rest (iii) 100 Breaststroke fast 50 Freestyle at race pace
after each

Sprinting

12 x 50 on 1:30. Sprint 10 metres in and out of turn in IM switch order Fly-Bk,Bk-Brs,Brs-F/s

A Typical 16 Week Preparation for the Elite Swimmer

Week Starts	Weeks Out	Week Type	Distance (km)	Testing Schedule	Internat. Comp.	National Comp.	Camps
Apr 18	16	End	80	Step			
25	15	End	80	3000			Fly
May 2	14	Adap	50				
9	13	Qual	60	National			
16	12	End	90	Profile		ACT	
23	11	End	90				
30	10	Adap	50	Profile			
June 6	9	End	80			ACT	
13	8	Qual	70	National			IM
20	7	Qual	70	3000			
27	6	Adap	50				
July 4	5	Spr	50		S Clara		
11	4	Qual	60				
18	3	Qual	60			G Prix	
25	2	Race p	50	National		G Prix	
Aug 1	1	Race p	35			Vic/SA	Sing
8	0	Race p	20		P Pacs	NSW	
15		End	50			QLD	
22		Spr	30			SC Nats	

The basic guidelines for each of these weeks is as follows

Endurance Week

* The intensity of this work is at -60 to -40 beats below maximum heart rate.
* The majority of this work is done a straight stroke swimming.
* Because of the fatigue factor due to the volume a close eye on technique is a must.
* Anaerobic threshold sets at -30 below maximum heart rate

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	Aerobic Threshold FS Kick HVO's	O'Dist Form B/Only Pull HVO's	Short Rest FS Kick Skills +Drills HVO's	Off	Aerobic IM + Form B/Only Pull	O'Dist FS Kick HVO's Skills +Drills
PM	Anaerobic Threshold IM Skills + Drills Kick	Aerobic Fly Race Pace HVO's	Off	Pull Descend Kick HVO's	Aerobic Fly Race Pace HVO's	Anaerobic Threshold Form Kick

Quality Week

* This is the race specific part of the preparation.
* Anaerobic Threshold sets are used to buffer the endurance base during this period. The intensity of these sets is also slightly higher,with heart rates being in the area of -20 beats off maximum.
* IM switching work is increased during this phase.
* Lactate Tolerance involve multiple repeats on moderate rest

As with all other sets these can also be done as either swim pull or kick sets.

Combination of pull and kick sets.

The ability to swim either leg-dominated or arm-dominated sections of your IM is something that has to be worked consistently. With this in mind the combination pull and kick sets as outlined in the backstroke section above makes up a major part of the outline of the IM program. The combination sets should be done in all switching sequences in IM order and the changing of which stroke is kick and which is pull, gives the coach a wide scope of variety into their workouts. The total integration of all aspects of training will be the basis for success with the IM program.

The ability of a well trained IMer will usually be highlighted by their ability to change from one stroke to the next without losing their momentum and without taking great lengths to get into the rhythm of the next stroke. The stroke switching sets around the turn is a skill that needs to be introduced early in the swimmers program and one that needs to be refined constantly throughout their career. The total integration of all these aspects of training will be the backbone of the training program.

PERIODISATION

Taking into consideration my current position at the AIS the development of our IMers is usually from the Level 3 and 4 of this plan. However in some cases we have had to go back as far as Level 2, so as to fully develop the athletes talent. I usually work on the principle of a 24 week training cycle leading up to the trials meet and then a 16 week training cycle leading up to the major meet of the preparation. I believe that the single training weeks allows the athlete more time to adapt to each of the different training loads.

A Typical 24 Week Preparation for the Elite IM Swimmer

Week Starts	Weeks Out	Week Type	Distance (km)	Testing Schedule	Internat. Comp.	National Comp.	Camps
Sep 26	24	C/T	20				
Oct 3	23	C/T	20				
10	22	C/T	25				
17	21	C/T	30				
24	20	C/T	40	National		Burl G	
31	19	End	70	3000			
Nov 7	18	End	80	Step		L Ridge	
14	17	End	90				
21	16	Adap	60				
28	15	End	80	3000		AIS	
Dec 5	14	End	95	Step			
12	13	End	105	National			
19	12	Adap	60				Home
26	11	Qual	80				Home
Jan 2	10	Qual	80	3000			
9	9	Adap	50			QLD	
16	8	Sprint	60	Step			
23	7	Qual	80				
30	6	Qual	70				
Feb 6	5	Qual	70	Step			
13	4	Spr	50			NSW	
20	3	End	60	National			
27	2	Race P	45				
Mar 6	1	Race P	35				
13	0	Race P	25			CGTrials	

Quality Week cont'd.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	Aerobic Threshold FS Kick HVO's	O'Dist IM + Form Skills+ Drills Pull FS	Anaerobic Threshold Kick HVO's	Off	Aerobic Thres.FS Skills+Drills B/only Pull	O'Dist FS Race Pace Aerobic The. speciality
PM	Lactate Tolerance Aerobic FS HVO's	Aerobic Thres. Fly Race Pace B/Only Pull	Off	Lactate Prod. Kick Aerobic Pull	Anaerobic Thrs.Fly Kick HVO's	Lactate Tol. Kick B/only Pull

SPRINT WEEK

* The emphasis changes in quality sets from many shorter rest quality repeats to fewer longer rest repeats.
* The main filler sets are of an aerobic nature.
* MVO_2 sets are at 10 beats off maximum heart rate.
* HVO's stands for high velocity overloads (shorts sprints under 10 seconds). This idea was given to me and explained at great length by Bernie Wakefield and Ken Wood.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	O'Dist FS B/Only Pull Kick HVO's	Off	MVO2 Fs Kick Race Pace	Off	Aerobic Threshold Fly B/Only Pull HVO's	Aerobic Thres. IM Short Rest FS Kick
PM	Lactate Peak Aerobic Pull HVO's	Pull Descend BK Kick O'Dist Aerobic Fl	Off	Pull Descend FS Skills+Drills Race Pace	Lactate Prod Aerobic Pull FS HVO's	Off

ADAPTATION WEEK

The principle behind this week is just a little of all types of work so that the body doesn't go into a complete rest situation but not to much so as to hinder the adaptation process.

* The intensity remains the same but the distance of the set decreases.
* A good time to refine technique.
* The main filler sets are of an aerobic nature.
* MVO_2 sets are at 10 beats off maximum heart rate. Anaerobic Threshold sets are at 20 beats off maximum heart rate.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
AM	Aerobic Thrs. FS Race Pace Kick	Descend Pull FS Skills+Drills Kick	MVO2 FS O'Dist Pull BK Race Pace	Off	Descend Pull BK Skills+Drills Kick	Anaerobic Thrs. FS B/Only Pull Kick
PM	Lactate Tol. Aerobic BK HVO's	O'Dist IM and Form	Off	O'Dist FS	Lactate Prod Aerobic FS HVO's.	Off

THE INDIVIDUAL MEDLEY AS A RACE

As far as excitement, race strategy and mental toughness are concerned, it is impossible to go past the IM. As a race develops, it is very clear that each individual has a specific race plan and strategy that he or she is swimming to. The placing in the race can, and will, change many times before the final result is known.

With this in mind, you should develop your own race strategies for each individual swimmer. Therefore each swimmer can race the way their own training has prepared them. It is of no use swimming at speed X if you have trained them at speed Y. Although swimmers should only ever concentrate on their own race, I feel it is important that they have a good idea of their opposition and their strengths and weaknesses. I often think of the story of tennis great Ivan Lendl who kept detailed analyses of all players he played against so that when he came to play them he had a fairly good idea of their game plan and strategies.

This certainly applies to medley swimming, it is no good changing your own race plan eg. if someone goes out in the 100 fly faster than you, you should know how to control your pace and not go out with them. Race strategies for the IM are as wide and varied as the people that swim the race. However, there are some general concepts of race strategies that we should look at. Because of the change of strokes involved in the IM, it is not just a matter of going all-out from the dive and holding onto the finish.

We must look at the splits as a percentage of the race time and as a percentage of our PB 100m time. Over the past years, many studies have been done to determine what each split should be in regard to the total time of the IM race. The following percentages are averages of these findings:

Butterfly	22.4%
Backstroke	25.5%
Breaststroke	29.5%
Freestyle	22.6%

These percentages are useful when determining splits from a particular time that you may be looking at for a certain athlete. For instance, if I am looking at a 5:00 min total time then the Fly leg should be 1:07.2, the Backstroke 1:16.5, Breaststroke 1:28.5 and the final freestyle 1:07.8. THESE FIGURES CAN ONLY BE USED AS A GUIDE, and NOT AS SPECIFIC TIMES.

Another way to look at 400IM splits has been suggested by Dr Ernie Maglischo in *Swimming Even Faster*. He suggested that the first 100 Fly should be approx. 2.5-3.0 secs. slower than PB 100m Fly time. The Backstroke and Freestyle legs should be 6-7 secs slower than fastest 100m times in those two strokes and the breaststroke leg should be 8-10 secs slower than 100 m breaststroke best time.

He also suggested that a swimmer with equal ability in all four strokes would swim the Butterfly leg 2.5 -3.0 secs slower than their PB 100 time. The backstroke should be 4-5 secs slower than the Butterfly leg. The breaststroke would be 10-12 secs slower than the backstroke and the freestyle leg 14-15 secs faster than the breaststroke leg.

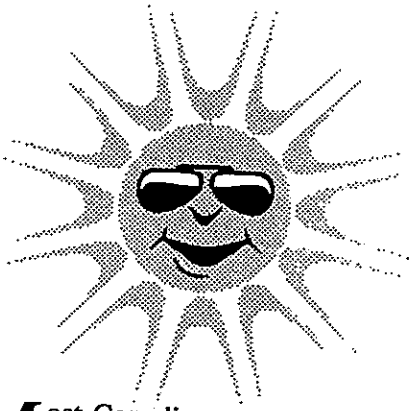
For the 200IM the splits are: Fly - 1 sec slower than PB 50; BK - 3 secs slower than PB 50' BR - 5-6 secs slower than PB 50 ; and FS - 4 secs slower than PB 50. When comparing different strokes the splits are: Fly - 1 sec slower than PB 50, BK - 3-4 secs slower than FLY split; BR - 3-4 slower than BK split and FS 6-7 faster secs faster than the BR split.

Another method for determining split times for the IM race was developed Dr. Jeno Tihanyi for Alex Baumann's 1984 Olympic gold and world record swims. The method here was to look at the percentages of split times as compared to 100m PB times. Dr Tihanyi determined for success at the national level, the 100m split times should be approx. 80% of your 100m PB time, for international level competition this should increase at 85% and for international success this should once again increase to 90%.

This paper has covered in brief the development of an IM swimmer from the very basic stages in their career to success in the international arena. Success will only come from a well-designed training program that has total integration of all aspects of the training process. I believe that a coach should have a good understanding of the training programs at all levels of coaching from age group to international levels. *If you don't know where you are going you'll certainly not know how to get there!*

The IM is the coach's greatest challenge - to integrate training, racing, and planning is a demanding job. It will however, provide you with the most stimulating and motivating experience available in coaching. It provides you with a vehicle to add variety, stimulation and challenges in a number of ways to your swimmers.

The only restrictions that you face are those that you place upon yourself.



Are You Practising Safe Sun?

abridged from the Canadian Press

Most Canadians are starved for the sun during our winter months. But this warm-weather enthusiasm has scary side: Health experts expect 60,000 new cases of skin cancer in Canada this year, up about 10,000 from last year. To make matters worse, sunscreens are not the cancer-prevention miracles that many believe them to be.

Some Tips:

* Enjoy the sun, but limit exposure times. The rays are strongest between 10 AM and 3 PM.

* Try to stay in the shade, wear tight-weaved clothing and wide-brimmed hats and sunglasses.

* Don't rely on the use of sunscreens or blocks to protect against skin cancer, but wear liberally to protect against burning and other damage.

* Wear sunscreen or blocks with a sun protection factor (SPF) of at least 15, preferably 30 or more. Many medical experts prefer sunblocks containing titanium oxide or zinc oxide, which work by reflecting the UV radiation rather than absorbing it.

* Get enough Vitamin D and beta carotene. Research indicates taking 30 milligrams of beta caratene a day pretects against the suppression of the immune system by UV rays.

* See a doctor if you spot any unusual moles or growths on your skin, particularly if they are irregular in shape, bleed, itch or have changed. Most skin cancers can be cured if caught in time.

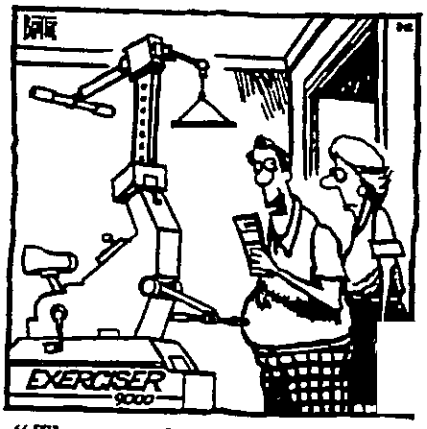
The difference between ordinary and extraordinary is that little extra.

MSC News – April/ May 1995

SUMMARISE WHAT WAS CONCLUDED

Before winding up conversations or agreements make a point of summarising the conclusions. This simple act of restating all parties' understanding of the meaning of the meeting will help keep you on the rails, which could save you a lot of misunderstanding later on.

SNAFU© by Bruce Beattie



"The manual says to start out slowly. So far, I'm only looking at it five minutes a day."

Swimmer's Ear: Prevention and Treatment

by Mark L. Sandilands
Lethbridge Masters Swim Club

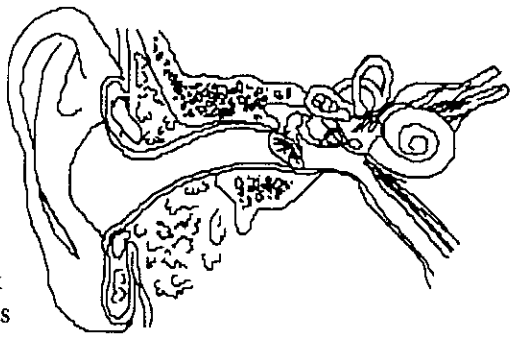
Reprinted with permission from MSC News - April/May 1995

Compared to, say, jogging, swimming is much easier on our bodies. However, swimming has its own source of medical woes. For example, many serious swimmers have had to stop swimming entirely because of recurring ear infections. Fortunately a tendency to develop ear infections due to swimming can be overcome with preventive steps.

In order to understand the ear problems of swimmers, it is helpful to understand the structure of the ear. Sound waves are focussed by the pinna and sent down the ear canal. This canal is usually curved and contains wax (cerumen). At the end of the ear canal is the ear drum. In a healthy ear, this membrane completely blocks the ear passage so that neither air nor water can pass beyond. The ear drum vibrates when sound waves reach it and these vibrations are transmitted by small bones in the middle ear to the inner ear where they are transformed into nerve signals which then go to the brain.

Because the eardrum seals the middle ear from the outside canal, a tiny tube allows for pressure equalization, for example, when climbing a mountain or when the atmospheric pressure changes. This "eustacian" tube has one end in the middle ear and the other end in the back of the throat. This is the main source of another kind of ear infection--middle ear infection. However, "swimmer's ear," or otitis externa is a fungal or bacterial infection of the external ear canal. Often the infection is caused by Pseudomonas aeruginosa, a very hardy bacteria which can survive in circumstances which would kill most other bacteria, for example, an inadequately chlorinated swimming pool. It also grows well in the kind of conditions found, for example, in the ear of a regular swimmer.

Healthy skin normally protects against these bacteria. However, if the surface of the skin is broken by the use of cotton swabs, hairpins, or earplugs, pseudomonas can cause serious problems. Numbers of bacteria increase drastically, the body brings in its defence mechanisms and a battle ensues. The first experience is usually itching. The infection can progress to swelling and severe pain, particularly when the person swims. Often there is a discharge from the ears.



Treatment of Swimmer's Ear

First of all, it is important to determine if the pain is due to Swimmer's Ear and not due to other types of ear infections. For example, ear pain can be caused by a middle ear infection, which is entirely different, both in cause and treatment. A physician should be consulted to determine that the ear drum is intact (not broken or ruptured, which can occur in middle ear infections). There may be wax, dead skin etc. in the canal which can be syringed out. Antibiotic drops will likely be prescribed.

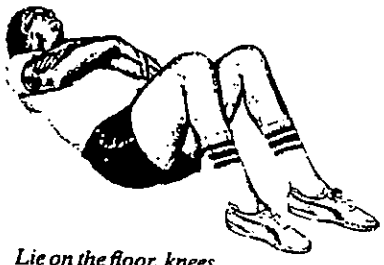
The big question next is, "How long do I have to stay out of the water?" Remember that pseudomonas likes moisture. Therefore, if you only put in the antibiotic drops and keep swimming, you will just wash out the drops and replace them with nice warm water which will further encourage bacterial growth. There is,however, a way. Once the pain subsides such that you can swim comfortably (a day or three under antibiotic treatment), you could start swimming again provided that you take steps to avoid the conditions that pseudomonas likes.

Mark Sandilands, who swims in the 50-54 age group, has been in Master's swimming for 10 years. He was a coach with Lethbridge Master's Swim Club for six years. He also coached with the Lethbridge Summer Swim Club from 1981-1990.

He grew up in Edmonton, "a couple of blocks from the South Side Swimming Pool," and swam with the South Side Swim Club for three years in his teens. The South Side Swim Club later amalgamated with the Jasper Place Club to become Edmonton Keyano.

A surge of power

WHEN Dr. Garrick changed the way I do sit-ups, an odd thing happened. I run every other day, usually covering about five and a half kilometres in 33 minutes, more or less. After Garrick taught me roll-ups, my time dropped to 30 minutes, with no extra effort from me. As I ran, abdominal muscles, contracting along with the hip flexors and others that pull the thigh forward, now were sharing the initiation of each stride. My thigh muscles didn't tire as soon. It seemed as if power for each forward lift was being transferred from the abdomen through the hip to muscles in the front of the leg.



Lie on the floor, knees bent 90 degrees, and your lower back flat to the ground and arms crossed over your chest

Exhaling on a count of five, slowly roll head and shoulders up until shoulder blades clear floor. Hold for five. Roll down on a count of five, inhaling

In order to accomplish anything, we must be able to picture in our mind the desired result. Dream fulfillment requires action. A dream without action is just a fleeting thought.

The following workouts are continued from an article printed in the February issue and continued in May and August, from Masters Swimming Canada. The article was titled ' Sept. - June Swim Workouts ' by Jamie Connors.

APRIL

Monday	Wednesday
10x75 free 25 DPS/50 swim 1:30 8x200 free 3:45 odd - broken at 100 :10 even- swim- negative split 2x50 stroke 25 drill/24 fast 1:15	12x50 choice :10 16x100 free 2 sets of 2 4 on 1:45/ 4 on 1:40 8x75 odd free -breathe every 3,3,4,5th stroke :20 even stroke - 8,8,6,4 breaths per 25 :20
Total 2450	Total 2700

Friday	Monday
6x100 odd - free :10 even - str 3x400 free 7:00 1- broken at 100's- :05 2- broken at 200's- :10 3- straight swim 10x75 25 fly/25bk/25 br 1:40 100 ez	5x150 50 swim/50 kick/50 swim :20 30x50 free 10 on 1:00 10 on :55 10 on :50 extra 1:00 after ea 10 12x25 choice :40 dive every 4th
Total 2650	Total 2550

Wednesday	Friday
4x200 choice :20 15x75 free 5 sets of 3 ↓(1-3) 1:30 4,5 ez ----------75 ez 10x50 alternate on 1:15 25 kick/25 swim 25 swim/25 kick odd hard - even easy ----------50 ez	2x400 200 free-smooth (:20) + 8x25 free fast (:05) 6x250 free odd - 25 DPS/25 fast 4:15 even- steady 4:30 4x100 IM 2:30
Total 2550	Total 2800

Guide, philosopher and friend.....a prop at a time of mental tension. A coach's job is big enough for any person.

FRANZ STAMPFL 1955

FAST

APRIL	
Monday	**Wednesday**
1x1000 choice swim alt. 25 DPS/25 swim	8x100 odd- free 25 DPS/25 sprint :15 even- IM no fly
16x100 free (all out) 2:00	18x50 6 sets of 3 ↓(1-3) 3- free 1:00 3- str 1:15
4x25 br pull with fly kick :05	----------50 ez
100 ez	10x75 fly/bk/br or bk/br/free 1:45
Total 2800	Total 2400
Friday	**Monday**
10x75 build by 25's :10	14x50 choice :10
8x200 odd- broken at 100 :05 even- swim 3:45	18x75 6 sets of 3 ↓(1-3) 1,3,5 free 1:30 2,4,6 fly/bk/br 1:45 or bk/br/free
----------50 ez	----------100ez
8x50 stroke	10x25 alternate on :40 25 kick/25swim 25 swim/25 kick odd-hard/even-easy
Total 2800	Total 2400
Wednesday	**Friday**
8x100 50 swim/50 kick :10	10x75 odd - free :10 even- str
9x150 free ↓(1-3) 2:45	12x125 free 2:30 ↓(1-3) 25 DPS/100 fast
----------100 ez	------ 50 ez
10x50 stroke :20 ----------50 ez	12x25 choice build speed :10
Total 2800	Total 2600

Affection and respect is not the coach's due, it must be earned. In order to earn it, he must present his team with a sound training program and with well planned and organised training sessions.

DOC COUNCILMAN 1965

Don't thirst for success

Reprinted from The Swimmer April 1995

COACH'S CORNER

I would like to discuss your drinking habits.

As we all know, the human body is made up of about 60 per cent water, and that during exercise we perspire. It follows that we will have fluid loss from our system. How much we lose is not easy to measure, but any weight loss is basically body fluid. Weighing yourself before and after training is an indicator of your fluid loss, as one kilogram of weight lost equals one litre of body fluid lost.

It is important to keep yourself hydrated, especially before, during and after a training session. If your training session is light and lasts for less than 60 minutes, drinking cool water is enough. But if you are training for longer, you can try one of the low-percentage carbohydrate sports drinks that are now available.

Such sports drinks have a carbohydrate concentration of less than 10 per cent. If the concentrations are higher (for example, Coca-Cola, 10.7-11.3 per cent), there is a delay in the absorption of water, and this may result in dehydration, and that is what you're trying to avoid. These drinks should also be cool - about five to 10 degrees - as colder fluids empty faster from the stomach and are, therefore, absorbed quicker.

So, what to drink and when?

Before training. Two hours before exercise, drink 500ml of cool water or low-percentage carbohydrate sports drink. This can be repeated 30 minutes before training.

During training. Generally, you need to consume 150-250ml of water or sports drink during every 15 minutes of exercise, but you may need to experiment with the quantity and taste for the best effect on your performance.

After training. Drink plenty of cool water or low-carbohydrate sports drink, and keep doing so until you pass clear urine. Thirst is not a good indicator of dehydration as once you are thirsty, it is too late. Catching up is almost impossible, so always drink before you are thirsty. It has also been found that drinking 600ml in one go is better than smaller amounts over a period of time, but this may not be practical, so you need to experiment to find what is right for you.

It is also important to refuel because, as I mentioned in the last issue, we use oxygen to convert our stored glycogen into energy. These stores are limited and need to be replenished each day.

By consuming carbohydrates, we keep our glycogen stores topped up. You can use a high-carbohydrate sports drink or food when refuelling, and maximum benefit can be gained if you do this in the two hours after exercise.

All athletes who engage in intensive physical exercise require rehydration for a good performance and recovery, so drink up!

JOHN ORNSBY

Different strokes for folks

Body Talk
GRAEME DE GOLDI

A COMMON problem for myself and other sports masseurs is that many people receiving treatment believe they are going to get a nice, relaxing "fade-away" massage. This, generally, is not the case.

A remedial masseur is concerned about a specific injury and - with the use, of palpation (feeling) skills and anatomical knowledge - can ascertain which muscle tissue is affected.

Remedial massage is usually begun about 48 hours after the injury, near the end of the acute inflammatory phase.

The massage at this stage should be administered with no pain. The strokes used are very broad and follow along the muscle to try to aid the venous and lymphatic flow. Lymph is the lubricating fluid of the muscles, the motor oil of the human body. It decreases friction between the muscles and helps the removal of lactic acid. The massage at this stage is to aid the normal repair process, which can be impaired by restricted movement.

The masseur uses these longitudinal strokes to relax the muscle without provoking further bleeding at the site of the lesion. As treatment continues, the masseur may increase the depth of the strokes to a moderate level of pain with some resistance in the muscle tissue.

Some strokes used might be transverse friction, which can cause a moderate level of pain.

These strokes are applied across the direction of the muscle fibre.

It is excellent in the case of treating a chronic lesion such as hamstring tendonitis.

Transverse gliding is a deeper stroke where the masseur moves across the muscle belly.

It is generally used as muscle maintenance during heavy training.

Myofascial release methods are being used a lot nowadays.

This does not require any "warm-up" strokes and involves the masseur using thumbs, forearms and fingers moving with a tensile force in the direction of the muscle/fascia fibres.

Digital Ischaemic Pressure is the use of thumbs with direct pressure on the muscle.

This type of stroke is used for treating "trigger points" which are tender points in muscle that refer pain to other areas.

There are many other strokes, such as hacking, percussion, compression and mobilisation techniques that a competent and qualified massuer can use.

So when you go to a good masseur and feel a a little pain, be tolerant - it's for your own good.

"Well that's how it happened, Sylvia ... I kissed this frog, he turns into a prince, we get married and whamI ... I'm stuck at home with a bunch of pollywogs."

"Just nibble at first ... But when you hear them yell 'Piranha!' — go for it."

ARRIVING ON TIME

To arrive some place on time, jot down the time of your appointment and also the time you should leave to be punctual.

Allow for likely delays.

MINIMAL CORRESPONDENCE

Write shorter memos. Write briefer letters. Write shorter faxes.

Even if you're writing a press release, keep it brief. Brief communications are much more likely to be read.

AUSSI RESOURCE CENTRE

A great way to get your club together for a social night/fundraiser is to have a video night. Clubs who may not be able to swim all year round could use this to keep some continuity in their lay off period.

Items are available for the following hiring charges:

1 Video	1 Week $5	2 Weeks $8
2 Videos.	1 Week $8	2 Weeks $12
3 Videos.	1 Week $10	2 Weeks $15
1 Audio Tape.	1 Week $3	2 Weeks $5
2 Audio Tapes	1 Week $5	2 Weeks $8

A bill will be forwarded to you with the goods (including postage) and payment must be sent with the items, on their return.

VIDEOS

* Sunrice High Performance Eating Strategies, plus booklet
* Mark Tonelli tapes
* Aussi Coaching Seminar with Kirk Marks
* THE ATHLETIC INSTITUTE SWIMMING SERIES
  1. Freestyle & Backstroke
  2. Breaststroke & Butterfly
  3. Starts, Turns & Progressive Drills
* AUSSI WORKSHOP - Tailoring a Programme plus booklet
* Stretching - Bob Anderson
* Food for Sport
* Masterstroke Technique
* Your Backyard Swimming Pool is your home fitness centre
* AUSKA - Swimming Strokes
* SWIM SMARTER, SWIM FASTER AND
* STARTS, TURNS AND FINISHES
* Masters Stroke Techniques
* Swimming Fastest
* A.S.C.A. Conference MASTERS Adelaide 92
* Strength Training
* Visualisation
* Media Matters
* Exercise beats Arthritis

AUDIO TAPES

* THE CREATIVE PERFORMANCE INSTITUTE
  1. Guided Imagery for Racing Risk Taking & Racing
  2. Guided Imagery for Training Commitment & Training Today Relaxation and Mental Rehearsal

* AUSTRALIAN COACHES CONFERENCE SERIES 1990
  1. The Role of the National Coach In Australian Swimming - Don Talbot OBE
  2. Integrating School and Club Swimming - Dick Shoulberg
  3. Managerial Perspectives of Parent, Coach, Athlete Relationships - Professor Andrew Crouch
  4. Blood Lactate Responses in Masters Swimmers During Active and Passive Recovery - Peter Reaburn
  5. Utilisation of Time and Space for Swimming and Dryland Training - Dick Shoulberg
  6. Physiological Considerations in Tapering Swimmers - David Pyne
  7. Coaching Butterfliers - Doug Frost
  8. Training and Racing the Individual Medley - Dick Shoulberg
  9. The Importance of Teaching Good Technique - Laurie Lawrence
  10. The AUSTSWIM Swimming Program - John Kilpatrick
  11. Long Distance Swimming Training - Dick Campion
  12. High Altitude Training - Ian Findlay
  13. Coaching the Elite Distance Swimmer - Ian Findlay

AUSSI RESOURCE CENTRE - ORDER FORM

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ADDRESS _____

_____

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I REQUEST THE HIRE OF THE FOLLOWING ITEMS

1. _____
2. _____
3. _____

I WOULD LIKE TO HIRE THEM FOR A TOTAL OF ___WKS COMMENCING _____ DATE

I AGREE TO RETURN THEM IN GOOD ORDER COMPLETE WITH MY CHEQUE FOR HIRE AND POSTAGE

SIGNED _____

DATE _____

CHEQUES MUST BE MADE TO "AUSSI"

27 Johnstone Street,

MALVERN 3144

Sports Nutrition

Supplements

The primary reason active people take vitamin supplements are to improve performance, compensate for poor eating habits and meet the unusual demands of intense physical exertion. Because winning and losing is often measured in fractions of a second, many atheletes look to vitamins and mineral supplements for a competitive advantage. Unfortunately, they are often misled by advertisements that promise things they can't deliver and reinforce this expectation.

The reality is that vitamin and mineral deficiencies caused by an inadequate dietary intake will impair performance, but supplementation beyond normal requirements will not provide the boost that many athletes seek.

The science of nutrition is still in its infancy - we are constantly learning about nutrient interactions, and the perfect pill does not exist!

Specific Vitamin Needs

The need for some B Vitamins is increased as a function of increasing calorie need in physically active people. Rich dietary sources of the B vitamins are found in high-carbohydrate foods like whole grain breads and cereals. If active people meet their increased calorie needs from these foods, nature will take care of the rest.

Post-menopausal women may find it difficult to achieve the recommended level of calcium in their diet, especially if they have an intolerance or dislike of dairy products. Regular, weight-bearing exercise, along with adequate calcium intake, can help to prevent osteoporosis. Since osteoporosis is irreversible, these preventive habits are prudent choices for post and pre-menopausal women. Of course, if adequate calcium can be supplied by dietary sources, it is always a better choice then supplementation.

Can vitamin and mineral supplement be harmful?

Fat-soluble vitamins (A,D,E and K) are stored in the body and can build up to toxic levels. Serious health problems (and even death) can result from overdoses of these vitamins. An excess intake of most water-soluble vitamins (B and C) is flushed out of the body through the kidneys, so these vitamins are less likely to promote toxicity. However, habitual intake of megadoses can cause imbalances in the body's storage and regulation of these vitamins. The main problem with mineral supplementation is that many minerals work together in certain ratios - an overdose of one mineral can result in poor absorption of another one. For example, too much calcium can cause and imbalance in phosphorus. Similarly, the absorption and utilisation of copper, iron, and zinc require a delicate balance.

Good luck if you are a vitamin pill popper.

The Rules of AUSSI

It's great to know the rules if you are swimming but it is even better to know them if you aren't! There are many arguments about the rules, and even some coaches are uncertain about some of them.

Medleys: How about the rules for swimming a medley? Do you know the right order? In individual events the order is Butterfly, Backstroke, Breaststroke and Freestyle. In medley relay events, the order is Backstroke, Breaststroke, Butterfly and Freestyle (alphabetical).

Each section must be finished in accordance with the rules that apply to the style concerned. Therefore, when changing from Backstroke to Breaststroke, the shoulders must NOT turn over the vertical before you touch the wall. In a Medley, Freestyle means any style other than Backstroke, Breaststroke or Butterfly. This rather limits you to doing the Australian Crawl, but you could do sidestroke, or dogpaddle I suppose.

Making a Mistake: If in a Medley, you commence with a wrong stroke, you can negate disqualification by stopping and returning to the pool end and recommence using the correct style. Amateur swimming now no longer allows for this 'erasing of the error' so this rule is under review. If you have to stop for any reason (costume slipping off, swallowing water, goggles hurting your eyes etc) you may stand on the bottom, or hold the lane ropes, but you must not walk or propel yourself forward. You must float off when re-starting.

Freestyle: Yes, freestyle is just that! you can use any style, crawl sidestroke, butterfly, kicking on your back etc (just remember the rule about medleys though!) If you are swimming in a freestyle event and you wish to try for example, a breaststroke record, then you may nominate which stroke you are doing before you start. The swimmer must comply with all the rules of such stroke (or strokes).

"Destiny is not a matter of chance, it is a matter of choice; it is not a thing to be waited for, it is a thing to be achieved."

William Jennings Brown

Branch Director of Technical Development - Recent Carnival Observations

Starts:

It was noted at a recent AUSSI Carnival that certain swimmers do not understand the rules of starting. There are only two attempts at starting unless through the fault of officials, any more than two may be allowed.

In theory there is only one false start allowed and [illegible] the second and final start, even if a swimmer breaks, all other swimmers must go on the instruction of the starter (ie.gun, beeper, etc). The non-guilty swimmers must not assume a further false start, they should complete the race and the guilty swimmers will be disqualified accordingly when the race has been swum. A false start rope should therefore not be dropped on that second official false start.

The referee then determines all those swimmers who broke on the second start (even if that swimmer had not broken on the first start). Timekeepers should record official times on the cards and it is up to the referee to notify the recorder of the lane number, event and heart number and also the swimmer's name who was disqualified due to the false start breach. The starter would need to concur with the referee on this matter.

Timekeeping:

Ensure all timekeepers are ready before the starter prepares the swimmers, otherwise there may not be enough legal watches started to assure a top ten time (minimum of two watches), State or National Record, Remember for a world record there needs to be three watches operating effectively for the full duration of the swim. If one watch should fail then only a National record would be recognised.

Age Group on Time Cards:

As from 1st January, 1995, your age at every AUSSI Masters sanctioned swim carnival will be the age you are as at 31st December 1995. Your relay age total will also be affected by this new FINA ruling.

The difference between AUSSI and FINA for relays is that at AUSSI carnivals the age group will be 80+, 120+, 160+, etc whereas at FINA it becomes 80-119, 120-159, 160-199, etc.

Robin Sweeney
Director of Technical Development for Queensland.

"If you are not afraid to face the music, you may someday lead the band"

Spuk Tiding

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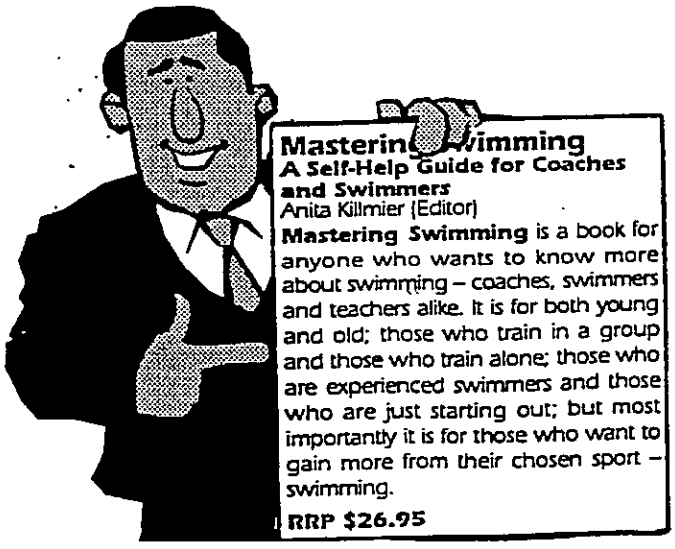

Mastering Swimming
A Self-Help Guide for Coaches and Swimmers
Anita Killmier (Editor)
Mastering Swimming is a book for anyone who wants to know more about swimming – coaches, swimmers and teachers alike. It is for both young and old; those who train in a group and those who train alone; those who are experienced swimmers and those who are just starting out; but most importantly it is for those who want to gain more from their chosen sport – swimming.
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