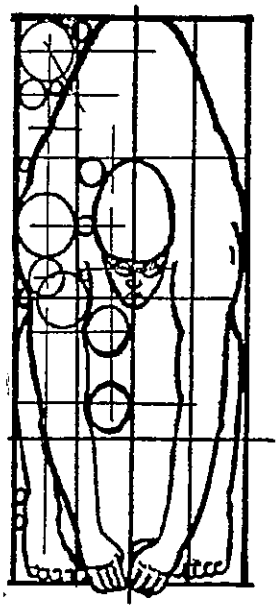

AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

NATIONAL OFFICE
P.O.Box 207
MARLESTON S.A. 5033
Telephone (08) 344 1217
Facsimile (08) 344 1217

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The Olympics have come and gone, and with it the exhilaration of fulfilled promises, or the agony of shattered dreams.

The Olympics are always about contrast and extremes, and the stage in Atlanta was full of them. Careers are made and broken on the strength of Olympic performances. As spectators and athletes, we Masters celebrated and commiserated with the outcomes.

"The beauty about sport is that at the cutting edge, sometimes the impossible can happen." (Unknown author)

And indeed it did. Unknowns were catapulted into fame whilst many an athlete who failed to deliver, is destined to remain in obscurity - unless.....

In 1968 Mark Spitz was one of the latter. One can only imagine that the bitter experience of that year forged a stronger will. As world record holder, Australia's Rebecca Brown was quoted as saying "There was someone who once taught me that out of disappointment can grow determination; out of determination can grow challenge; out of challenge can grow courage; and out of courage can grow greatness." (Courier Mail 15/7/95)

In 1972 the tables were turned Mark Spitz as he vindicated his place as one of the all time greats. Out of defeat came victory. Out of adversity came courage to try again.

How many athletes from Atlanta will be back in 2000 slogging it out in the quest for glory.

Baron Piere de Coubertain the founder of the modern Olympics once said "Remember where the glory lies - in the struggle, not the prize."

We witnessed many examples of this, but also the ugly side of sport where PB's, making finals and even medals of the 'wrong' colour seemed to count for nought. The media weren't all to blame for this injustice. In some instances the athletes themselves were the harshest critics where not winning the gold was seen as failure.

Athletes are trained to dream the dream, set the goals and activate the plan to achieve those goals. If success is seen as 'winning' then everyone who didn't win (ie from second place downward) were 'losers'. According to this criteria 99% of the population are failures. Perhaps coaches are not preparing athletes properly by making them so heavily focused on the goal that any other outcome pales by comparison. Scott Miller broke the existing world record, but was clearly disappointed that he still got beaten into second place.

Surely we need to redefine 'success' and instill these attitudes in our athletes. Whilst they may seem platitudinous to some, the following pearls of wisdom retain the spirit of de Coubertain's ideal and could be used as the benchmark for success to be measured.

- SUCCESS - Self satisfaction of knowing that you have given your best to become the best that you are capable of becoming. (John Wooden)
- Success is a journey not a destination. (Author unknown)
- Success is the product of unremitting attention to purpose. (Benjamin Disraeli)
- Winning is seeing improvement in yourself. (Author unknown)

Ultimately success is measured by an individuals own private criteria. It was heartwarming to see Sarah Ryan thrilled at making a final; the women's relay team just happy to be doing it collectively for Australia; and Daniel Kowalski in what must rank behind Shane Gould as the most individual medals won at an Olympics by a swimmer. How is it that his remarkable achievement hasn't had the recognition it deserves?

One lady with her head firmly screwed on was Ellie Overton who told the press in no uncertain terms that her idea of succes was to try ones hardest and in that sense the swimmers were excelling. It was not the swimmers fault if the public had false expectations due to media hype.

Perhaps the best performance to exemplify the Olympic ideal had to be Kieren Perkins' astounding comeback.

It may not have been a closely fought battle or even a world record, but his victory defines the Australian underdog and has written him into the history books as one of Australia's greatest ever sporting performances.

The sentimental favourite who was gracious in defeat and humble in victory; loved

Drug Testing in Masters Swimming

THE EDITORIAL FEB VOL 8 NO 1

In re-opening the Volkers/Riley case your Editorial reminded me how inadequately informed I felt as the time as an ordinary AUSSI Masters Swimmer / Member of the Public. The Media comparisons with other cases inclined toward support of "our girl". Experience of FINA's conflict of interest in the World Masters Swimming Championships and the swimming component of the World Masters Games made me wonder how clear a decision they might give. The argument that a headache tablet should not be banned was beside the point: it was banned and know to be.

However, there do seem to be some lessons for AUSSI Masters Swimmers which your Newsletter could address. Particularly those in the older age groups whose bodies cannot handle medicines as well as younger adults, might benefit from "the AUSSI Medical Panel's" comment on the following

- Unless your coach is your Doctor, always seek the latter's advice.
- At 18, let alone our base age of 20, you are an adult and ultimately responsible. (Maybe FINA says 25?)
- Never use other people's prescribed medicines
- Find out from your pharmacist the interaction and side effects of non - prescription medicines.

The "Medicos" might have other points or even work you up an article.

Yours

Keith Wake

****

Unfortunately the AUSSI Medical Panel has not responded as no-one feels equipped to tackle the issue. It would appear that organisers who own events have the right to decide whether their events will have drug testing or not.

"...we hear that some swimmers stopped taking prescribed medication... which we consider to be a very dangerous outcome."

Hence the World Masters Games (multi sports) had drug testing but the FINA World Masters Swimming Championships in Sheffield did not.

The following article has been issued from our National Office. (Ed)

****

AUSSI doesn't now have a Drug policy and is strongly opposed to drug testing for Masters Swimming. Accordingly, AUSSI formally lodged its protest against the decision for random drug testing to take place at the last World and Australian Masters Games in Brisbane and Melbourne.

Drug testing for Masters Swimming was a major discusion point at the 1994 MSI (Masters Swimming International) Congress in Montreal at which Masters Swimming organisations from twelve countries were present. The suspected incidence of drug taking for performance enhancement, its implications on Masters Swimming and the consequence of introducing drug testing were all considered.

Notice was taken of the FINA Medical Committees' determination that there should be no drug testing in Masters and that priority be

Editorial Continued

and admired worldwide and who is the consumate ambasador.

Keiren's glory was in his struggle and in the end the impossible *did* happen.

New Look AMSCN

For those computer buffs who are interested, I am slowly dragging myself into computer literacy; though I confess it has been a long and tedious process. The Australian Masters Swimming Coaches Newsletter has always been a 'cut and paste' job simply to save me time. As an unpaid volunteer you can imagine the time it would take me - a very slow 2 finger typist - to retype all the articles that appear. However I have just invested in Microsoft Publisher and I have to admit, have enjoyed playing around with it. AMSCN will always be a 'cut and paste' job to some extent, but I hope you like the new look.

Bits and Pieces

given to the prevention of accidents. The FINA Masters Committte is also opposed to drug testing. MSI decided to uphold the current position of FINA.

The World Masters Games had promoted that random drug testing was to take place and we hear that some swimmers stopped taking prescribed medication prior to those games which we consider to be a very dangerous outcome.

AUSSI Masters Swimming however, wants it known that it is opposed to the use of performance enhancing substances but cannot at this stage see a safe and effective way of applying appropriate sanctions.

Ivan Wingate
Executive Director AUSSI

****

AUSSI will be 21 on September 22 1996.

To celebrate our coming of age, a dinner is to be held at North Ryde RSL Club on Saturday September 21 1996 (after the Ryde Carnival) and all AUSSI members are invited. This will coincide with the National Board meeting affording all board members the opportunity to attend, mix and meet the members at large.

In recognition of the anniversary a special National Award in the form of a gold pin is to be presented to a seleceted group of AUSSI's who have given special service to AUSSI.

Also to commemorate the occassion,, Darryl Hawkes, our National Recorder, has compiled a book containing lists of all the National Records broken over the 21 years. It will be on sale for $10.00 at the dinner and from the National Office.

****

Be nice to your kids. They'll choose the nursing home!

****

I wrote this poem to celebrate 21 years in Masters swimming. You may like to publish it in your next newsletter.

Regards Jenny Mack

MAGIC STUFF

The Americans came and kick started our sport
And proved we weren't 'past it' as society thought.
Now twenty years have come and gone
And AUSSI Masters is still going strong.
We all love to swim and some like to compete
So we organise carnivals where we can meet
And put all our hard training to the test
While extending each other to do our best.

Our motto is fitness, friendship and fun
And at the end of the day we all have won
As it does not matter what club you are for
The atmosphere's great, the camaraderie even more.
If the air is cool and the water is cold
The warmth comes from meeting peers of old.
And if some get medals and some do not
It really doesn't matter a hell of a lot.

As just taking part is the name of the game
And the 'Spirit of Masters' is the ultimate aim.
It is very contagious, there's no doubt at all
Officials and competitors all have a ball.
While there's life in the oldies we can all show the way
To the youngsters that follow and show them a ray
Of hope for their future to 'drink of the cup'
And keep hanging in there and never give up!

****

HIGH PROFILE US MASTER COACH IN AUSTRALIA

Terry Laughlin, Director of Total Immersion Swimming in N.Y., and author of many articles appearing in our newsletters, teaches the secrets of 'slippery swimming' (see article page 25) at weekend workshops throughout the US.

A workshop is planned for Sydney 7-8 Dec 1996. For details contact Di Coxon, NSW Branch Coaching Director. Ph (02) 652 1215.

****

"The coach had only one friend...his dog. His wife was mad at him and he told her a man should have at least two friends. So his wife bought him another dog". Author unknown

Research Comparing Female Masters Athletes and Non-Athletes on Physical Self-worth, Mood and Menopausal

Masters sport is a relatively new phenomenon. During the last dacade there has been increased recognition of the ability and desirability of older people participating in competition. From this, it can be seen that an incresing amount of older women are taking up the opportunity to identify themselves as athletes.

To investigate whether the benefits of sport participation evident in younger women are found in older age groups, particularly in terms of developmental changes (e.g.menopause) older women face, a study was undertaken to compare female Masters athlete's physical self-worth, mood state, and experience of menopausal symptoms, both physical and psychological, to those of a non-athlete control group. It was expected that Masters athletes would demonstrate an advantage over controls in terms of exhibiting greater self-worth, more positive moods, and fewer menopausal symptoms.

The Masters athletes were identified as having a significantly higher sense of physical self worth than non-athletes. Subjects did not vary in their experience of mood and experience of menopausal symptoms. results of this study provided further support for the positive effect of athletic staatus on physical self-worth. By contrast, it appears that the advantages to be gained in mood state and the experience of menopause do not come from being an athlete, and may possibly be a consequence of participating in low to moderate levels of exercise.

The study results pertaining to menopausal symptoms do not match the anecdotal evidence gained from case studies of current Australian Masters female athletes. Menopause has effected individual athletes' motivation to participate, performance levels, ability tro train formally, and the enjoyment gained from sport. It seems menopause may be a problem for some athletes only.

Future research could develop better ways of understanding the menopausal experience of the athlete, by comparing athletes who encounter difficulty in coping with menopause with those who do not. Variables distinguishing the two groups could therefore be clearly identified. Steps could then be taken to de-

TAILORING A PROGRAMME

A COACHING SEMINAR WITH ANITA KILLMIER

A transcript of this 2 day semina- conducted by AUSSI Tasmania is now available in booklet form to all members. Cost is $5.00 which includes postage and **all money goes 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

PRINT OVER RUNS

Every issue I print more than the subscribed numbers of newsletters. When people re-subscribe late, they usually request to have sent the issue that they've missed.

If you have re-subscribed, requested an issue but not received it, it means I have run out of the over runs and will not be printing anymore. Your subscription will begin with the following issue.

To guarantee continuity of newsletters you must re-subscribe by the date on your envelope label.

MEASURING PERFORMANCE Continued from page 7

The monitor most easily used by coaches with larger groups is purchased through Bob Treffene and could be a good project for fund raising for your club. He can be contacted on 07 3378 2216

In the next issue I will offer a number of other ideas for measuring training sets.

Anita Killmier

DIAGNOSIS
I Got The Blues

Varicose Veins

What are they?

Varicose veins are veins that don't work properley. Instead of being narrow and virtually invisiblethey bulge out from the skin. They usually develop over years, most commonly on the legs, but can be found in other parts of the body.

"Pregnancy is the number one cause, and is probably why varicose veins are more common in women."

Why don't they work properly?

Veins collect blood from an area of tissue, such as skin or muscle, and return it to the heart for redistribution. The veins above the heart can use gravity to get the job done, but below the heart the veins have to push the blood uphill. Firstly, these veins have one-way valves that onlt allow blood to flow back up to the heart.
Also, blood in the skin and fatty tissues drains into bigger veins in the calf and thigh muscles, so that when you walk, you pump blood back to the heart.

In varicose veins, these valves don't work properly, so the blood pools and distends these vessels near the skin surface.

What's the cause

If the tops of veins are partly blocked, blood pressure in the veins goes up, and they start to bulge. Pregnancy is the number one cause, and is probably why varicose veins are more common in women. During pregnancy, the baby takes up lots of room in the pelvis, compressing the large veins of the leg.

Standing up for long periodscan also cause varicose veins. Factory workers who satnd all day commonly complain of varicose veins later in life. Similarly, surgeons and theatre nurses also suffer.

What are the symptoms?

The most common symptoms are aching, fatigue and feeling like the affected leg is too hot. Standing for long periods causes these symptoms.

Are there complications?

Discolouration of the skin around varicose veins is the commonest complication. This is called varicose eczema and, like any type of eczema, can be very itchy.

Because of the eczema and swelling, the skin around the vein is usually weaker than normal, so just a minor knock can be enough for the skin to break down, and let an ulcer form. Small blood clots can form in these distended veins. Usually this clears with little more than support stockings, but deeper clots may require more urgent care.

What's the treatment?

Smaller veins are usually treated by by either injecting them with something to block them off for good, or by using laser, a more recent technique. Wearing a good support stocking will definitley help, and a recent report from the UK suggests taking chestnut tablets daily helps to get rid of varicose veins. For larger varicose veins, surgery is the best treatment. The incompetent veins are tied off, so that the blood in the surrounding skin has to drain through veins that work properly.

Written by Dr Malcolm Clarke, a practising GP.

The material in this column is of a general nature and should not be relied upon as a substitute for professional advice.

Reprinted with permission from The Melbourne-Weekly.

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Cramping Your Style?

Do muscle cramps interfere with your training? Try drinking more water before and during your workouts, suggests *Personal Health Letter*. Loss of body fluid is a common cause of cramps, so ensuring adequate hydration can help prevent them. Other possible causes: inadequate warm-up, low fitness level, loss of potassium and sodium through perspiration (sports drinks and/or bananas can help), and cool breezes blowing over the affected area.

A muscle cramp is simply an involuntary muscle contraction. The cure is to relax the affected area by ceasing exercise, stretching, and gentle massage to relax the muscle.

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FOR MORE INFORMATION PLEASE CONTACT:
MIKE KEELAN
STATE COACHING CENTRE
(07) 3237 9835

From The National Newsletter

The New Members Kit

We would like to think that all of our readers know what a New Members Kit is, but do you?

The New Members Kit is a great idea which has unfortunately suffered from

- **neglect** (outdated information handed out because the contents were not reviewed before the kits were presented)
- **to much TLC** (kits loaded with so many pieces of information that non of them were read), and
- **ignorance** (I didn't even know there was such a thing, where can we get some?)

"We would like to think that all of our readers know what a New Members Kit is, but do you?"

New Members Kits are available from Branch Secretaries.

They are a vital part of the induction or initiation to AUSSI membership. The new member's first impressions have a lot to do with how long they stay as members. The New Member's Kit reinforces your friendly greeetings by providing guidance on what AUSSI has to offer.

First and foremost the New Member's Kit must contain information about your Club, e.g. a list of members pplus details of club activities such as swim times, coaching sessions ,aerobics and planned social events.

One club, Trinity, adds valus to the New Member's Kit in two ways. First the new member is introduced to the members during the Club Captains weekly announcements and acknowledgements talk. A New Member's Kit is then presented and with the kit a club swim cap is given.

The New Member's Kit also need s to contain brief information from the Branch. This could take the form of a copy of the Branch Calendar plus a list of specific Branch activities such as Coaching Clinics, Officials Training Courses, and VIP Management Training Seminars.

The new mwmber also needs to be made aware that he/she has joined a National Organisation with international links. The National body needs to provide an organisational tree which shows briefly how each level of AUSSI relates to the others plus there must be a list of the programs and activities of AUSSI with a brief explanation of each and how to participate in them.

So in brief your New Member's Kit need to contain

* "What is available to me as an AUSSI member"
* An organisation chart
* Branch calendar
* Club material

Is your club using the New Member's Kit to help your club, your Branch, your National Body, and above all your NEW MEMBER?

Gary Stutsel - Director of Membership Development

****

AUSSI's Coaching Video

Does your club have a copy?

If not, ask your Branch for a lend of it or maybe they can supply a duplicate copy for your Club to keep.

It runs for about 40 minutes, has excellent video quality of real AUSSI swimmers of all shapes ,sizes and abilities. It was put together at a seminar conducted by Kirk Marks at Warringah NSW.

It covers training programmes, flexibility exercises, drills, explicit detail on technique with both good and not so good examples and even shows you how to do the dolphin kick. It shows you how to do starts and turns too.

Measuring Performance continued from page 9

to ensure swimmers are performing the sets at the desired intensity (I call it my 'Lie Detector'), or using it to prevent overtraining.

The traditional method of hand palpation on the wrist or carotid artery is generally highly inaccurate ,so the purchase of a Heart Rate monitor is recommended.

Another variation of the SCAT set mentioned above is to swim 6 x 50m with a descending Heart Rate (HR) i.e. the first 50m 40-50 BBM, Number 2 30-40 BBM, Number 3 at 20-30 BBM, 4 at 10-20 BBM, 5 at 10 BBM and the last at Max HR.

continued on page 4

Reprinted from FINA Masters News

HOW IT ALL STARTED A CENTURY AGO

100 YEARS OF OLYMPIC SWIMMING

A look back at the first Olympic Swimming Competitions in 1896

By DR. HANS-JÖRG JOHN

The ancient Olympic Games did not include swimming contests. Their insertion into the modern Olympic programme came in 1896 because of Baron de Coubertin's principle that all sporting disciplines have equal rights.

When the first Olympic swimming competitors met in Greece in 1896 the organisation of international swimming was still at the beginning of its development. Some national federations already existed such as the British federation, founded in 1869, and some international and European meets and championships did take place but these were held sporadically and in an ad hoc manner rather than as part of an official programme based on binding rules and agreements.

Consequently Olympic swimming at the 1896 games and in the period up to the First World War was inconsistent. This is confirmed by the documentation of statistics relating to the games and records of the very simple sites and establishments used for the competitions, by the continuously changing programme and by the rules and rulings which differed considerably.

The reports about the first Olympic swimming event read almost like tales and anedoctes about an entertaining amusement of the period. The games started on 25 March with the official inauguration and closed on 3 April with the final ceremony. It may be that the temperatures in Greece at that time of year are pleasant but it appears that this was not the case on this occasion. The official report tells of the ninth day of competition: *"It was the worst day of all the ten days of the Games. Cold, cloudy, windy and tending towards rain."* (Olympiakoi Agones, p. 152). The swimming events were to be held on the morning of the sixth day, 30 March. Neither an indoor pool nor a heated or warm outdoor pool was available but the competitions were held in the open sea at Piraeus. The water temperature was about 12/13° and many of the competitors entered, eventually did not take part.

The official report also describes the atmosphere and conditions of the competitions:

"The Bay of Zea picturesquely surrounded by the most pleasant part of the city, constitutes a shallow and calm haven, communicating with the sea by the narrow entrance. The whole of the place is splendidly decorated owing to the festivity. On the quay is the Royal platform, bedecked with flags. The judges.... are under the presidency of Prince George. They take up position on a suitably decorated barge anchored close to the shore. Other barges were destined for the representatives of the press and for the foreign athletes. Two huts set up on the shore serve, the one as a changing room and the other as a provisional first aid room." (p. 146)

A steam launch took the contestants from the dressing room to the starting line in the sea, marked by a line of floating dried gourds. Here they jumped into the water and waited for the pistol to go off.

The finishing line was similar with a red flag near the shore and the decorated Royal platform and barges nearby. After passing the line the steam launch picked up the competitors again and took them to the quay.

The Olympic programme contained three freestyle events, the 100m, 500m and 1200m. The starting lines of the 500m and the 1200m events were outside the bay and neither the start nor a great part of the race could be watched by the spectators. The official report talks about the 1200m race:

"The signal for starting was given as for the previous event, by a gun shot. The spectators to a high degree curious and impatient await the appearance of the contestants. After a relatively long wait the first [illegible] red leading the second by 100m. When he reached the finishing line he is recognised as being the Hungarian Hajos, the winner of the first race. The Hungarians become enthused and indulge in loud cheers as the Hungarian flag floats from the mast." (p. 147) The spectators did not have any chance to support their favourites or fellow countrymen by gingering them up.

A very modest number of swimmers entered the first Olympic swimming competition. Altogether there were 26 swimmers from 6 countries (Denmark, Germany, Greece, Hungary, Sweden and the USA) who took part in the three events. The Hungarian Alfred Hajos won the 100m and the 1200m while the Austrian Paul Neumann won the 500m. The winning times were 1:22.20 in the 100m, 8:12.70 in the 500m and 18:22.50 in the 1200m.

An additional race was also held over 100m only for sailors of the navy. From 11 entries there were only 3 participants with the winner coming in at 2:20.40.

Criticised from a modern point of view you could say like Shakespeare *"much ado about nothing"*, when you compare the poor attendance by competitors with the disproportionate public attention and expenditure for the swimming events in particular. The official report recounts: *"King George with the Crown Prince and Prince George having gone down to Piraeus arrive by steam launch around 10.30 at the jetty where they are welcomed by the Mayor of Piraeus. The bugle announces the start of the contest. The steam launch takes the contestants from the dressing r[illegible] to the starting line ... here they jump into the sea and await."* (p. 146)

But how did all this come about? The Olympic idea had grown vigorously in Greek society during the 19th Century after the successful war of liberation against Turkey in the 1820s. Sports were considered an important part of human and national culture as it had been in ancient Greece and so swimming took its place alongside the other Olympic sports marking the further development of the Games. The swimming events of 1896 may have been a modest beginning but as part of the Olympic ideal and the Olympic movement swimming has since become a corner stone and has become diffused in all societies in all continents of the world.

ATHENS 1896

Alfréd Hajós, of Hungary survived a 12 degree temperature of the sea water and 4 metre high waves to win the first Olympic swimming medal ever, in the 1,200m freestyle. Later he reportedly declared: "My will to live completely overcame my desire to win!

PARIS 1924

Martha Norelius, of the United States, won the gold medal in the 400m freestyle in the first Olympic swimming competition ever to take place in a real swimming pool, at Paris' "La Tourelle"

Measuring Performance - Part 1

"Anything measurable should be measured"

This holds true for coaching and all good coaches will keep records of their swimmers to compare performances, training sets or a whole host of statistics to track each swimmers progress.

Some of the more common statistics that are taken in training or at races include:

Stroke Rate or how quickly your arms turn over - this is taken by a special function on some better stop watches that have a stroke rate mode. For every stroke you time 3 stroke cycles and the stroke rate mode converts this to the number of strokes in a minute. As a guide the shorter the distance the higher the number. Elite athletes for example will have a stroke rate of between 50 and 60 strokes over a 50m race for all strokes except Breaststroke, which is around 45 to 50 strokes. The length of a race will also determine stroke rates e.g. a 200m swimmer should have a stroke rate in a range of 45 to 50, whilst a 400m swimmer may only be 40 to 45.

"Anything measurable should be measured"

There are a number of variables that will effect this number including height and age. In my experience Masters swimmers have very poor stroke rates. Older swimmers tend to have slow reaction times, non the less stroke rates can be improved using a number of different drills and exercises in training. Backstrokers are also very poor overall, with few swimmers in my club able to get their stroke rate above 40.

Unfortunately when most swimmers try to increase their stroke rate, they either get sloppy with their technique or they shorten their stroke and are not swimming efficiently. This leads me to the next easily measured skill.

• Stroke Count. Stroke count (SC) and stroke rate (SR) are inter-related and sometimes can be worked on seperately, but ultimately must be blended together in training sets. Swimmers count the number of strokes they take per lap and reduce this number by as much as is practicable. As a guide, Freestylers and Backstrokers should swim 1 stroke per metre or more i.e. 25 strokes in 25 metres. However 'less is best' and most good swimmers would be in a range of 16 to 22 strokes per 25 metres. Breastrokers and Butterflyers should aim for one stroke per 2 metres or 9 to 12 strokes per 25 metres. Size again will determine the length of the stroke up to a point. Good streamlining off walls, stretching at the front and back of every stroke, working a six beat kick on Freestyle/ Backstroke and having an effective curved arm pull will also effect the SC and can be improved by specific drills and sets.

Time: Recording times can be used in a myriad of ways. Training sets should be devised (see next months issue) that are repeated throughout the season at regular intervals. The times are recorded and used as a bench mark for future sets.

One of the most popular training sets used by coaches and popularised by Samantha Riley's coach Scott Volkers, is a SCAT (Stroke Count Add Time) set. In this set swimmers would swim a series of repeats - usually 50m on a fairly long rest. Swimmers add their number of strokes per 50m to the time it takes them to swim the 50m e.g. a swimmer who takes 43 strokes in 40 seconds has a total of 83. In successive swims they would aim to reduce this number by either

- reducing the number of strokes
- reducing the time
- a combination of both of the above

The coach can also vary the way this set is performed

- Reduce the time, but hold the SC
- Hold the time, but reduce the SC
- Hold the fastest time at the lowest practicable SC

Stroke Rate can also be recorded on this set and a fourth variable can be introduced; that of Heart Rate Monitoring. When a swimmer can integrate a fast SR with a good SC and manage good times, they are starting to swim well.

The coach should then train the swimmer to be able to maintain this SC and SR in the closing stages of a race when fatigue sets in. Recording these in a race will give a coach insight into where a swimmer needs to improve.

Heart Rate Monitoring: Much has been said about the benefits of Heart Rate Monitoring over the years in this newsletter and I would go so far as to say that it should be standard practise by all coaches at every session. Whether your swimmers are training for pleasure, fitness or competition, it is the perfect way

Continued on page 7

WORKING OUT WITH PIC

TRAINING WITH HEART RATES

There is still a tendency for many Masters swimmers to train by simply swimming several laps of the pool each time they go to train. This kind of practice is better than nothing and it does contribute to the development of aerobic condition. It does not however by itself help the swimmer to develop the capacity to swim at a fast pace over a distance. In the early part of the season a large percentage of practice should involve long relatively easy swims to regain the aerobic condition which may have been lost during a lay-off following the end of the season.

After the swimmer has spent the first six to eight weeks establishing a sound aerobic base, changes in training should be added to the programme. This involves working at various intensity levels to develop condition in speed and endurance. The purpose of this article is to touch on using the heart rate as an indicator of effort in training intensity. It concerns me when I see a Masters swimmer training at high intensity for the whole work-out and at every work-out. This is not necessary and in fact can be quite harmful.

If it is good enough for Perkins .....

One of the great debates which has raged for several years is how many metres swimmers should cover in training. For years we have gone through periods when a coach would ask for more distance than the coach down the road from his swimmers believing that by this method his team would be better than the other guy's. In the seventies the great distance swimmers in the world were covering phenomenal distances in training. It is reported that the great **Vladimir Salnikov** would swim up to 140 kilometres a week on occasions and others were covering distances close to this.

In recent years distance swimmers have moved away from this idea and are now concentrating on more quality swimming and less distance in their training. Australia has pioneered the approach that while a certain minimum amount of distance is necessary, the work should be done at higher quality.

I first came in contact with what is known as the *"Heart Rate Set"* when I was in Brisbane in 1986 at the Queensland Championships. **Laurie Lawrence** who has been one of the greatest producers of Olympic level distance swimmers in Australia with such champions as **Stephen Holland, Julie McDonald** and many others introduced me to this system of training. It has been accepted as the basic fundamental of Australian distance swimming since the early eighties with swimmers such as the great **Kieren Perkins** using this method under the watchful eye of **John Carew.**

Perkins is of course the present world record holder over 400m, 800m and 1500m. He is closely followed by fellow Australians **Daniel Kowalski** and **Glen Housman** to be the three leading middle and distance swimmers in the world today. These three, as well as several other prominent female and male distance swimmers in Australia, are swimming far less distance than their counterparts of the seventies. I cannot speak for all the others but I am familiar with the programmes of Perkins and Kowalski. Both these swimmers go around 15 to 16km per day. Compare this with the 20 km daily workload of the Americans in the seventies. The Americans have continued with high workloads up to the present time and are slipping from world prominence in middle distance events.

Heart rate sets

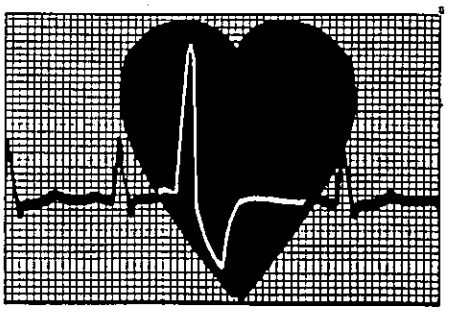
To correctly structure a heart rate set it is first necessary to establish the maximum heart rate. The formula most commonly used by Masters swimmers to determine maximum heart rate is to subtract your age from 220. An example would be for a person of 70yrs, maximum heart rate is 220 less 70 equals 150. While this is reasonably accurate it is by no means true for everyone. I know that at 70 years of age my own maximum is 170. So in my case if I was structuring a heart rate set based on 150 I would not be achieving the right intensity. The most accurate way to find the maximum heart rate is to have it checked with a monitor after a maximum effort swim. This could be at the end of race at a meet over a distance of 100 metres or 200 for younger swimmers. Perkins periodically has his maximum heart rate checked over an all out 200 which must be within 4 seconds of his best time for the test to be considered accurate. On the basis of this test future heart rate sets are designed.

For a swimmer like Perkins, the set consists of swimming a number of repeats with a rest interval and aiming to hold the heart rate at 10 beats below maximum. The length of the set is between 2000m and 3000m. An example for this swimmer would be 30 x 100m on a pace time of 1 min 40 seconds. Perkins' maximum heart rate is 180 (which is not high for young swimmers but seems to be consistent with many distance swimmers) and in a set such as this he would swim each 100m in about 58:5 at a heart rate of 170. This allows him about 40 seconds rest between each 100m. Perkins best 100m time is 52 seconds so we can see that it is a very intense set. The important thing is that the swimmer keeps the heart rate controlled and the coach monitors this throughout the set. The heart rate is called out to the swimmer and if it is too high then the swimmer eases back.

It concerns me when I a Masters swimmer training at high intensity for the whole work-out and at every work-out.

It is interesting to note that when Perkins set his world record of 14:41:66 for the 1500m at the Victoria Commonwealth Games the time averages out to 58:77 per 100 metres. So the correlation to his times in Heart Rate Sets is significant proof that this type of training works well in helping the swimmer to establish pace. The important point to remember is that the swimmer must swim accurately ***to heart rate and not to time.***

The distance of each repeat is never more than 200 metres and often consists of combinations of swims. Some examples are as follows: (30 x 100), 6 x (200, 150, 100, 50) (100, 2 x 50). The total of these sets is 3000m. Perkins never goes over this distance and it is the hardest section of his training in that session. The rest of the practice consists of kicking, pulling and swim-down. The Heart Rate Set follows a 2000m warm up. During these other parts of the practice the heart rate is held at about 40 beats below maximum. In the practice following a Heart Rate Set, the whole practice is swum at between 40 and 50 below maximum.



Continued on next page.

Application for Masters Swimmers

There is absolutely no reason why Masters, (and I am even referring to the older age brackets), cannot use heart rate sets in their practices. Too much of this kind of swimming however can be very stressful and I would advise that no more than two sessions per week should contain heart rate sets. (Perkins only does three). Furthermore I would suggest that older swimmers should not design a set which goes further than 2000m - probably 1500m would be in the correct range. Rest intervals should be about half the time of the swim. Taking the case of an older swimmer who swims 100m repeats in a set holding a heart rate of 10 below maximum at an average velocity of 1:40, the pace time should be 2:30. This same base time is used to construct all sets. Let's assume this swimmer wants to do the following Heart Rate Set:

5 x (150 -100 - 50)

The following pace times would be used:

150 on 3:45
100 on 2:30
50 on 1:15

It is easy and fun to construct sets with plenty of variety in this manner.

Stroke rate and pace

The other important thing about these sets is that the pace must be even, so that each 50m is at approximately the same pace. Not going out fast and dying. Another point to remember is that the stroke rate should be very close to the swimmer's competitive rate. This can only be checked by someone on the side of the pool using a watch with a stroke counting mode.

Points to remember

- ☐ Do not attempt Heart Rate Sets until a sound aerobic base has been established.
- ☐ For them to be effective the correct maximum heart must be established.
- ☐ Make sure that a good variable warm-up is done before the set.
- ☐ ***Do not do this type of training every day. It is very stressful.*** The heart rate set is slightly above anaerobic threshold pace.
- ☐ The day after the set, swim easy.
- ☐ For older swimmers a heart rate of 15 below maximum is better.

As I have already stated, a lot of variation can be applied to the construction of the Heart Rate Set. Remember not to exceed the heart rate of 15 to 10 below maximum. When this happens the times will not be held evenly and different energy systems are used. When the heart rate approaches maximum you are getting into a high lactate situation which is not what we are looking for in this type of training.

Good luck and remember ..... if it is good enough for Perkins it should be good enough for us.

Pic Parkhouse

Train to Swim Faster

Mike Murray
Gym Manager Roskill - Aqua Sport

Many athletes in the Masters category are capable of training and racing with the same intensity as those in younger age groups. Not only in swimming, where Masters are classified as beginning at 25 years, but in other sports, such as cycling and running. John Walker, the former New Zealand world mile record holder, was sill running sub 4 minute miles in his late thirties, and the four time "Tour de France" winner, Miguel Indurain, is aged 31.

For athletes, swimmers included, training and competing to achieve good results stems from several factors. Of importance is their trainability i.e. being blessed with physical and psychological attributes to succeed and self motivation. While the Masters swimmer still trains at the same intensity as younger age groups, the one limiting factor of time is not available. To be successful the master swimmer must have a reasonable work-load throughout the season.

We train to
- schedule the energy systems,
- stress the metabolic processor,
- improve.

The actual programme should be

a. gradually progressive throughout the season,

b. balanced to ensure $V0_2$ max improvement through interval training and to lift the anaerobic threshold, also through interval training,

c. designed to develop stroke, rhythm and pace through continuous over distance training. The program should balance the three types of training to enhance the overall endurance and ultimately the speed.

One term you may not as familiar with is $V0_2$ max. This is also known as maximum oxygen uptake. The term refers to the capacity to consume oxygen in terms of the amount supplied to muscles and tissues. Swimmers with large oxygen consumption are able to perform better in their events, be it endurance or sprints. Average values are 2 litres per minute for females and 3 litres for males. Training for $V0_2$ max will result in a more efficient swimmer by increasing the stroke volume, (amount of blood pumped per beat), cardiac output, blood flow and volume, capillary mass & density and improvement in muscular adaptation to higher intensity of swimming. The long term benefit will be an increase in overall speed because the intervals and repeats will allow swimming at between 80 - 90 % of maximum effort.

The necessary stimulus is given by repeats of 300m to 600m for younger and faster swimmers with 200m to 400m for the older Masters swimmers. Times to swim these repeats is usually between 3 to 7 minutes. If a fit 30 year old swims a 1500m in 32 mins. (which is a good time !) it will be the result of a lot of high intensity training This swim will elevate the heart rate and blood lactate levels. It will stimulate the aerobic system and require assistance from anaerobic energy metabolism.

To swim at extreme intensities requires doing anaerobic threshold training. Anaerobic threshold refers to the extreme intensity at which the rate of lactic acid diffusion into the blood stream is greater than its rate of removal from the blood. As swimmers get into better condition and are better able to stand the stress of training by producing lactic acid faster than it can be metabolised, the desired effect is being achieved. From 60 - 80% in early season to 80 - 90% later in the season. $V0_2$ max training and anaerobic threshold training can be seen to be closely related and should be incorporated in your training.

An example to accommodate both systems is to swim a set of

20 x 100 s
5 x 100 on 2:00 min..
5 x 100 on 1:50 min..
5 x 100 on 1:45 min..
5 x 100 on 1:40 min..

The rest interval must be reduced significantly to allow a slight elevation of blood lactate. Any repeat set such as this will prepare you to compete at anaerobic threshold level.

These are just two training energy systems which improve throughout the season along with skill, endurance and speed. Your ability to extract oxygen at a higher level will increase your anaerobic threshold elevate.

It is not necessary to train at maximum every day as this will lead to over-training, peaking too early and failing adaptation. This results in unnecessary rest and lost training time. Three to five sessions per week are needed and training times should be between 1 to 1.5 hours. The distance covered for $V0_2$ max and anaerobic threshold training is 3,000 to 4,000 metres with less for slower and older swimmers.

Reprinted from Masterscrawl 123 December 1994

Coaches at Risk

Competition and professionalism in the Australian sporting environment continues to increase at a rapid rate. This has created greater demands and expectations on coaches at all levels.

Australians are now more than ever willing to seek legal remedy against alleged wrongdoers.

Any coach may find themself having to defend legal actions which arise out of their role as a coach.

Heath Fielding Professions and Affinities (HFPA) — a recognised leader in the area of sports related insurance programs — has developed Sport Liability Insurance, this product provides unique individual protection against legal liability for all coaches.

Shane Crocker, a senior account executive with HFPA has been actively involved with the development of this program. He recently spoke to Sports Coach about the major issues facing coaches at all levels and the critical need for sport liability insurance protection.

SC: I can understand that there is a need for car insurance, house contents insurance and perhaps health insurance, but why must a coach have liability insurance?

Crocker: It is exactly these assets which the coach is protecting by affecting liability insurance. If a coach is deemed liable for injury or financial loss of an athlete under their care or a third party, these assets will be taken from the coach so as to repay the debt incurred.

SC: Is litigation a growth area in sport?

Crocker: Statistics show that during the 1980s litigation in sport doubled in Australia. The 1990s are not likely to see any downturn or improvement due to two major reasons:

Firstly, people in general are far more aware of their rights with regard to seeking a legal remedy against negligent parties.

Secondly, professionalism in sport is increasing rapidly and will continue to increase towards the year 2000.

SC: Are coaches sufficiently aware of the need for protection through insurance?

Crocker: No, I don't believe that coaches are aware that they can be found legally liable for such things as, injury to athletes, libel and slander. For example, inappropriate training programs, athletes' selection, inadequate supervision and tuition.

The attitude of "it won't happen to me, I do everything right" appears to prevail in the coaching community. While a coach may believe they are not legally liable for injury or financial loss, legal action could be instigated which they will have to defend. Defence costs alone can be enormous.

It is not unusual for a hearing in the Supreme Court or Federal Court to cost $10,000 per day and the average cost of senior legal advice can be as high as $4,000 per day.

SC: Why only now is there a need for protection through insurance?

Crocker: It is not only now, but the need is more prominent now. I have already mentioned the growth of litigation in sport. Sport, as we head to 2000, has also taken political prominence. Sydney 2000 has also attracted a new generation of young participants striving to participate in this event. All of this places greater demands and expectations on coaches at all levels.

SC: Heath Fielding Professions and Affinities has specifically developed a liability insurance for coaches at all levels — can you tell us the background and brief details of the policy?

Crocker: Working closely with the Australian Coaching Council (ACC) Heath Fielding Professions and Affinities developed the "Sport Liability Insurance Program". This policy is specifically designed for individual coaches at all levels and provides protection for legal liability arising from their coaching, teaching and instruction activities.

This legal liability protection means that if a coach is legally responsible for injury to an athlete under their control, the athlete's loss can be repaid.

The policy provides public and products liability insurance which is protection for the insured coach against legal liability to third parties (including athletes in their control) for bodily injury and/or damage to property resulting from an occurrence while coaching, or caused by a product manufactured by the coach for an athlete in their control.

The limit of indemnity is $5m for any one occurrence that may arise, and in total for all claims during the policy period with regard to products.

In addition, errors and omissions protection is provided for an indemnity limit of $5m for any one claim and for all claims during the period of insurance.

This protects the insured coach against legal liability for financial loss incurred by an athlete or third party as a result of a breach of duty by the coach in providing their coaching.

The policy also provides $30,000 towards legal costs and expenses which is available for the defence of any criminal prosecution alleged against the insured coach.

Reprinted from the Sports Coach Autumn 1996

Lawyers acting for the ACC fully endorsed and approved the policy prior to its launch to the coaching community.

SC: Does a coach have to be accredited to be eligible for this insurance?

Crocker: Yes, the ACC and the insurers believe that accreditation is vital. Coaches are kept up-to-date with improved training techniques and risk management procedures which assist them to avoid litigation. Sport liability insurance protects the coach provided they are accredited at the time of applying for cover for the entire policy period. It is important to remember the cover applies to the insured coach only and does not extend to employees or assistants of the coach.

SC: What is the annual cost of Sport Liability Insurance?

Crocker: Most coaches will pay only $45 per annum for all of the benefits mentioned.

Sports such as parachuting/skydiving and scuba diving attract different rates however, and coaches involved in these sports can contact HFPA for further information if required.

SC: Some coaches may already have some form of insurance cover provided by their club or association, is it enough? Are there pitfalls with these insurances?

Crocker: Many policies arranged by clubs and associations only protect the coach while specifically acting for that club or association.

This may only cover a small percentage of the time that they actually coach. They can be subject to legal action when not acting for the club or association

Also, limits of indemnity cover, under club or association policies are inadequate in many cases. The decisions with regard to the adequacy of the limits are made by the club or association, not the coach personally.

If the insurance cover does not provide for full settlement of an award of damages against the coach he/she can be personally obligated to pay any shortfall.

Another danger is that limits of indemnity can be required to be shared in the event of a loss or judgement, where the club or association and the coach are sued in one action. Again, a coach could be personally obligated to repay any shortfall.

Many clubs and associations insure only public liability and not professional indemnity (errors and omissions) insurance, meaning that there is no protection for financial loss not resulting from injury or damage to property, of an athlete or others, due to a coach's negligence.

Finally, public liability policies can exclude liability to participants. This means claims by any athlete injured while training or competing under the control of a coach is not covered.

SC: Is there a legal obligation for clubs and associations to inform coaches of all available insurance products that provide suitable protection to coaches?

Crocker: Once a director/official of a club or association is aware of such a product he/she has a responsibility to inform members.

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Club coaches are reminded that their AUSSI insurance covers them only for AUSSI club approved coaching session. If they coach other groups and hold NCAS accreditation they should consider alternative insurance.

Directors of associations and clubs who make decisions and arrange insurance on behalf of their coaches may find themselves personally liable for losses which result from inadequacies in insurance arrangements.

SC: Do coaches at the elite level of coaching only require protection? I am a coach for a local junior football team, why do I need the cover provided by HFPA?

Crocker: Coaches at all levels have a duty to ensure that the athletes and others under their control are not injured. This duty exists whether a coach is professional, amateur, or voluntary. They have placed themselves in a position which suggests a level of competency.

SC: Coaches reading this article may wish to apply for the HFPA Sport Liability Insurance, what do they need to do?

Crocker: Simply contact Heath Fielding Professions and Affinities for a brochure/application. Complete the application and forward it to Heath Fielding Professions and Affinities, together with a payment for the annual premium. Cover will commence immediately upon receipt of this by Heath Fielding Professions Affinities. ■

TURNING RULES FOR INDIVIDUAL MEDLEY EVENTS

Some confusion seems to persist among Masters swimmers as to the turning rules for the Individual Medley events. The heart of the matter, as the rules now stand, is that the change from one stroke to another is regarded as a finish. Consequently a swimmer uses two different turns in the Backstroke section one for the intermediate turn and one for the finish turn. The rules are detailed below.

The Individual Medley is a race in which the swimmer shall swim the prescribed distance in the following order: the first one-fourth, Butterfly; the second one-fourth, Backstroke; the third one-fourth, Breaststroke; and the last one-fourth, Freestyle (defined for the Individual Medley or Medley Relay events as any style other than Butterfly, Backstroke or Breaststroke).

Intermediate turns within each stroke shall conform to the turn rules for that stroke.

The turns when changing from one stroke to another shall conform to the finish rules for the stroke just completed, and shall be as follows:

1. *Butterfly to Backstroke - The swimmer shall touch with both hands simultaneously at, above or below the water surface. The body shall be on the breast and the shoulders in line with the water surface. Once a legal touch has been made, the swimmer may turn in any manner, but the shoulders must be at or past the vertical toward the back when the swimmer leaves the wall.*
2. *Backstroke to Breaststroke - The swimmer must touch the wall while on the back. Once a legal touch has been made, the swimmer may turn in any manner but the shoulders must be at or past the vertical toward the breast when the swimmer leaves the wall and the prescribed Breaststroke form must be attained prior to the first arm stroke.*
3. *Breaststroke to Freestyle - The swimmer shall touch with both hands simultaneously at, above or below the water surface. The body shall be on the breast and the shoulders in line with the water surface. The head may be submerged after the last arm pull prior to the touch, provided it breaks the surface of the water at some point during any part of the last complete or incomplete stroke cycle preceding the touch. Once a legal touch has been made, the swimmer may turn in any manner.*

the preparation of

KIEREN PERKINS

A FLUKE OR A PRODUCT OF PLANNING?

By

John Carew

Australian National Distance Coach

Kieren preparing for the 1500m freestyle event at the 1992 Olympic trials.

Kieren Perkins' early introduction to swimming was an unusual one. At the age of 9, he ran through a glass door severing his calf muscles, and was advised to do pool work and kicking to rehabilitate his injuries. As a result, he came to train with my squad in a small heated pool at Indooroopilly but never showed any sign of being a 'natural' swimmer.

His performances as an age group swimmer were not particularly noteworthy. His main stroke at that time was backstroke, which is of interest, as two of the world's top middle distance and distance swimmers, Brad Cooper and Steve Holland, were also top backstrokers as young age groupers.

Kieren's main goal in age group swimming was just to improve his tim But by the time he was 14, he h decided that he would make swimming his sport. After assessing his stroke and aerobic capacity we decided on a distance program.

TECHNIQUE

Being a great believer in correct technique — one of my priorities was to mould a stroke which would enhance Kieren's ability to swim long distances — I based his stroke on the technique of Murray Rose and other great distance swimmers, where relaxation was the dominant component. The model I was working towards focussed on relaxation, rhythm, body flow, pull and push pattern, high body position and timing of kick and arms.

A key factor of a distance swimmer's performance is being able to chan the timing of the kick when necessa By adjusting the timing of the kick and arm stroke, it is possible to ease the load on the muscles of the arms, thereby delaying fatigue. The timing of the kick can range from 2 kicks per arm cycle — 6 kicks per arm cycle depending on the intensity required.

Arm Timing: This is what I call the gear box of swimming. Distance and Middle Distance Swimmers use

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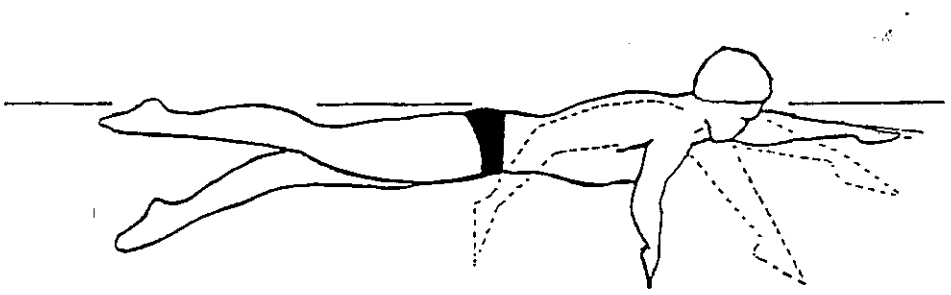


Figure 1:
Timing of Arms — Gearbox of Swimming.

advanced timing. Two hundred metre swimmers use a timing between Middle Distance and Sprint Timing. One hundred metre swimmers use a retarded timing (Figure 1).

TRAINING

After moulding Kieren's technique, my next priority was to plan a training programme for endurance. I worked towards a year plan — his technique was good — but his speed was non existent as at 14 years of age he could not break 30 sec for 50 meters. To increase his speed, the programmes I set were short (5 Kilometres), with emphasis on quality speed work. Half of the training programs were in my 20 metre pool and the remaining sessions were in one of only 2 heated Olympic pools in Brisbane. Overall distances were increased by a kilometre per session in each year of my plan:

Example:

st Year:	5km per session 55km per week
2nd Year:	6km per session 66km per week
3rd Year:	7km per session 77km per week
4th Year:	8km per session 88km per week

ENDURANCE WITH SPEED

I kept working on Kieren's technique and his speed was slowly improving. I then began to introduce endurance with his speed training. I still concentrated on quality — with 3 kilometres being the maximum distance for the endurance sets. However they were now designed to be of high intensity with shorter rest and faster times. I also introduced heart rate sets, with the goal of improving Kieren's speed for the repetitions and lowering his heart rate. (See Table 1).

Each session always included 1 kilometre of kicking to help condition the leg muscles to cope with 1500 metre racing. Most of our kick sets are done without boards, to put more load on the legs by having to push the body through the water

As I increased the distance of his sprint sessions Kieren's speed continued to increase. Sprint sets, however, are extremely fatiguing and "tear down" distance swimmers, so I always scheduled a recovery set after each sprint session. (See Table 2).

DRY LAND TRAINING

I have never believed in weight training for distance swimmers - as opposed to sprinters. I prefer to work on flexibility and strength with speed (biokinetics). All of my distance swimmers use the following dry land exercises:

Stretch Cords:	5 x 30 minute sessions per week
Stretching:	11 x 20 - 30 minute sessions per week
Bike:	5 x 20 - 30 minute sessions per week

Bike work is important to exercise and condition the legs and gluteal muscles. Before every training session and before any competition, my swimmers all do 20 minutes of stretching exercises. Not only does this help with the range of movement of the joints but I have also found that it appears to prevent injuries, as Kieren has been relatively free of any injuries during his last 4 years, despite his high quality work load.

TABLE 1: EXAMPLES OF HEART RATE SET — KIEREN PERKINS

Time	H/R	Time	H/R	Time	H/R
:58.1	160	:59.3	130	:57.8	157
:58.5	167	:58.8	143	:58.2	155
:58.9	167	:58.2	153	:57.9	164
:58.2	167	:58.5	150	:58.5	157
:58.0	168	:58.3	159	:58.4	162
:58.2	166	:58.0	155	:58.4	163
:58.5	163	:58.0	145	:58.4	160
:58.1	167	:58.4	159	:58.8	166
:58.4	168	:58.2	164	:58.8	161
:57.6	171	:57.6	162		

TABLE 2: SCHEDULE OF TRAINING SETS

AM	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	H.R. or QUALITY SET	SPRINT ANAEROBIC	H.R. or QUALITY SET	SPRINT ANAEROBIC	H.R. or QUALITY SET	DISTANCE AEROBIC QUALITY
	DISTANCE AEROBIC	RECOVERY	DISTANCE AEROBIC	RECOVERY	DISTANCE AEROBIC	REST
PM	**MONDAY**	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**

Distance: 8km each session
Distance: 2km to 3km (88 km) each quality training set
Distance: Per week 11 sessions (88km)

- *"It's not always easy being a parent, but then it wasn't always easy being a child either. Remember?"* Jeanette Harrison

EXAMPLES OF TRAINING SETS

WARM UP		
200 - 150 - 100 - 50 x 2	*Freestyle*	*1:20 (CY)*
200 - 150 -100 - 50 x 2	*Pull Freestyle*	*1:20 (CY)*
4 x 200 Freestyle	Heart Rate Set	1:30 (CY)
4 x 150 Freestyle	Heart Rate Set	1:30 (CY)
4 x 100 Freestyle	Heart Rate Set	1:30 (CY)
4 x 50 Freestyle	Heart Rate Set	1:30 (CY)
5 x 200 Pull Freestyle		1:15 (CY)
5 x 200 Medley		3:00 (CY)
1000 Kick		0:60 (CY)
50		
WARM UP		
3 x 400 Build Freestyle		*7:00 (CY)*
8 x 100 Mini Medley (Even B.T.F)		*1:40 (CY)*
30 x 100 Freestyle	Quality Set	
10 x 100 Freestyle		1:40 (CY)
10 x 100 Freestyle		1:35 (CY)
10 x 100 Freestyle		1:30 (CY)
1000 Freestyle Pull	25 fast	25 Slow
1000 Kick		2:00 (CY)
100		
1000 Turns Build 25		
25		
WARM UP		
10 x 100 Freestyle Pull		*1:20 (CY)*
20 x 50 Medley Order		*0:50 (CY)*
10 x 400 Freestyle		
2 x 400 Freestyle		4:35 (CY)
4 x 400 Freestyle		4:30 (CY)
2 x 400 Freestyle		4:20 (CY)
2 x 400 Freestyle Pull		4:20 (CY)
1000 Freestyle Kick		2:00 (CY)
100		
WARM UP		
10 x 100 Backstroke = Freestyle		*1:30 (CY)*
50		
20 x 50 Freestyle		*0:45-0:40(CY)*
5 x 300 Freestyle Descending 1- 5		4:00 (CY)
5 x 300 Freestyle 50 Fast 50 Medium		4:15 (CY)
2000 Freestyle		4:45 (PACE)
1000 Freestyle Kick		1:00 (CY)
50		
WARM UP		
500 - 400 - 300 - 200 - 100 x 2 Freestyle		*1:20 (CY)*
8 x 100 Freestyle		1:15 (CY)
4 x 200 Freestyle		2:30 (CY)
2 x 400 Freestyle		5:00 (CY)
1 x 800 Freestyle		9:40 (CY)
2 x 400 Freestyle		4:40 (CY)
4 x 200 Freestyle		2:20 (CY)
8 x 100 Freestyle		1:10 (CY)
1000 Freestyle Kick		
50		

WORLD RECORD 14:48:40

1500m Freestyle

Time Elapsed	100m Splits	50m Splits
26:29		26:29
54:99	54:99	28:70
1:24:35		29:36
1:53:68	58:69	29:33
2:23:31		29:63
2:52:71	59:03	29:40
3:22:60		29:89
3:52:43	59:72	29:83
4:22:83		30:40
4:52:01	59:58	29:18
5:21:93		29:92
5:51:60	59:59	29:67
6:21:66		30:06
6:51:64	60:04	29:98
7:21:52		29:88
7:51:15	59:51	29:63
8:20:54		29:49
8:50:65	60:00	30:11
9:20:64		29:99
9:50:69	59:94	30:05
10:20:60		30:18
10:50:85	59:99	29:81
11:20:81		30:25
11:50.96	60:40	30:15
12:21:21		30:25
12:51:21	60:25	30:00
13:21:30		30;19
13:51:17	60:06	29:87
14:20:37		29:20
14:48:40	57:25	28:03

400m Freestyle

Time Elapsed	50m Splits
26:43	26:43
54:77	28:34
1:23:48	28:71
1:52:54	29:06
2:21:55	29:01
2:50:73	29:13
3:19:47	28:74
3:46:47	27:00

Kieren checks his time.

- *"There is no success like failure; and failure is no success at all."* - **Bob Dylan**

EXERCISES

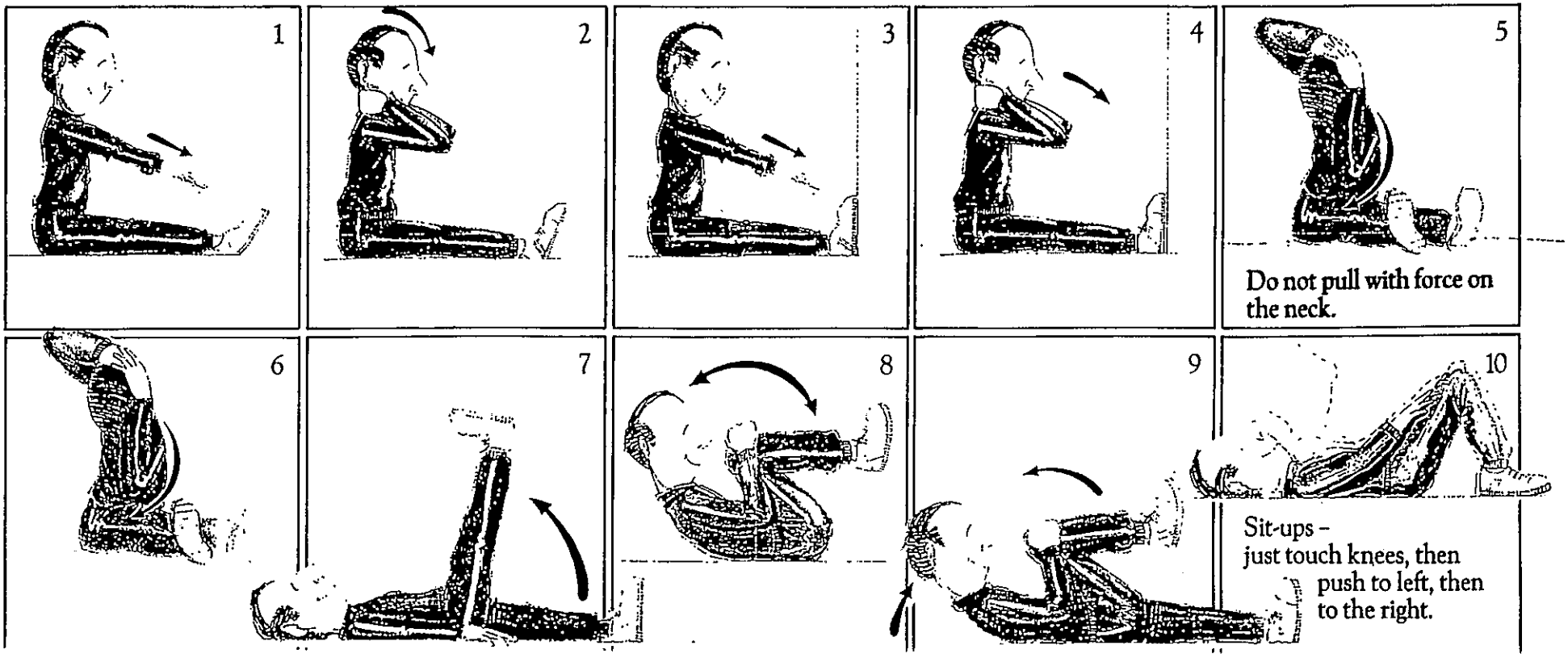
Back exercises are designed to improve the function of your back. They are used both to prevent injury and to treat existing back pain.

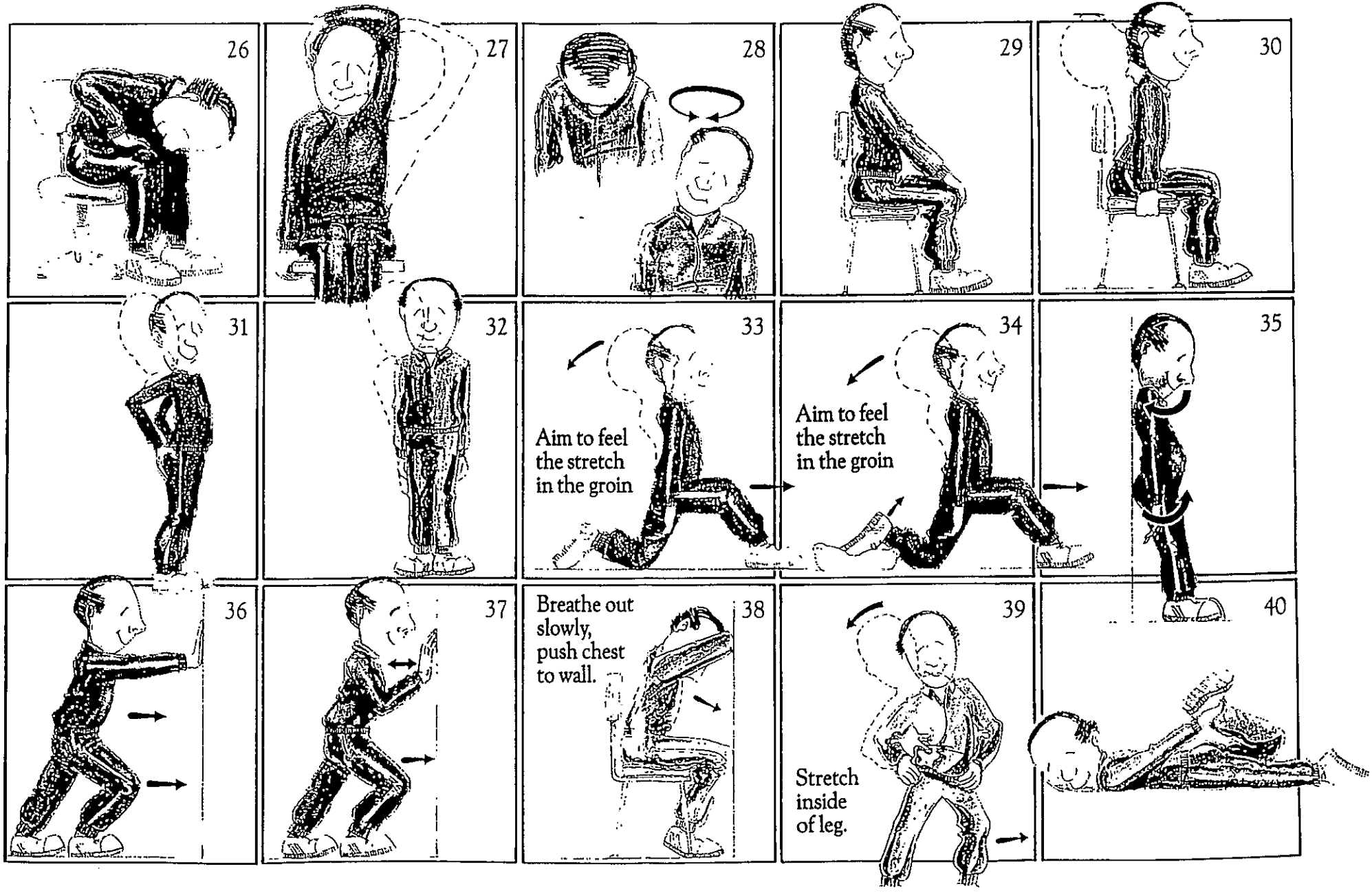
If you have a painful back, your practitioner will probably give you some exercises to perform. Even if the exercises are not giving pain relief, it may be beneficial to continue with them, because they will keep the back working as well as possible, thereby preventing further deterioration of your condition.

You will notice that the exercises listed include exercises for the legs and abdomen. It is important to have all your muscles working properly in order to make the back function efficiently.

Exercise programs for control or relief of back pain should be monitored by a qualified practitioner. If pain occurs with any exercise, check with the practitioner before continuing.

Do exercises slowly, aiming to stretch the muscles, not to jerk them.

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Aim to feel the stretch in the groin
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Aim to feel the stretch in the groin
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Breathe out slowly, push chest to wall.
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Stretch inside of leg.
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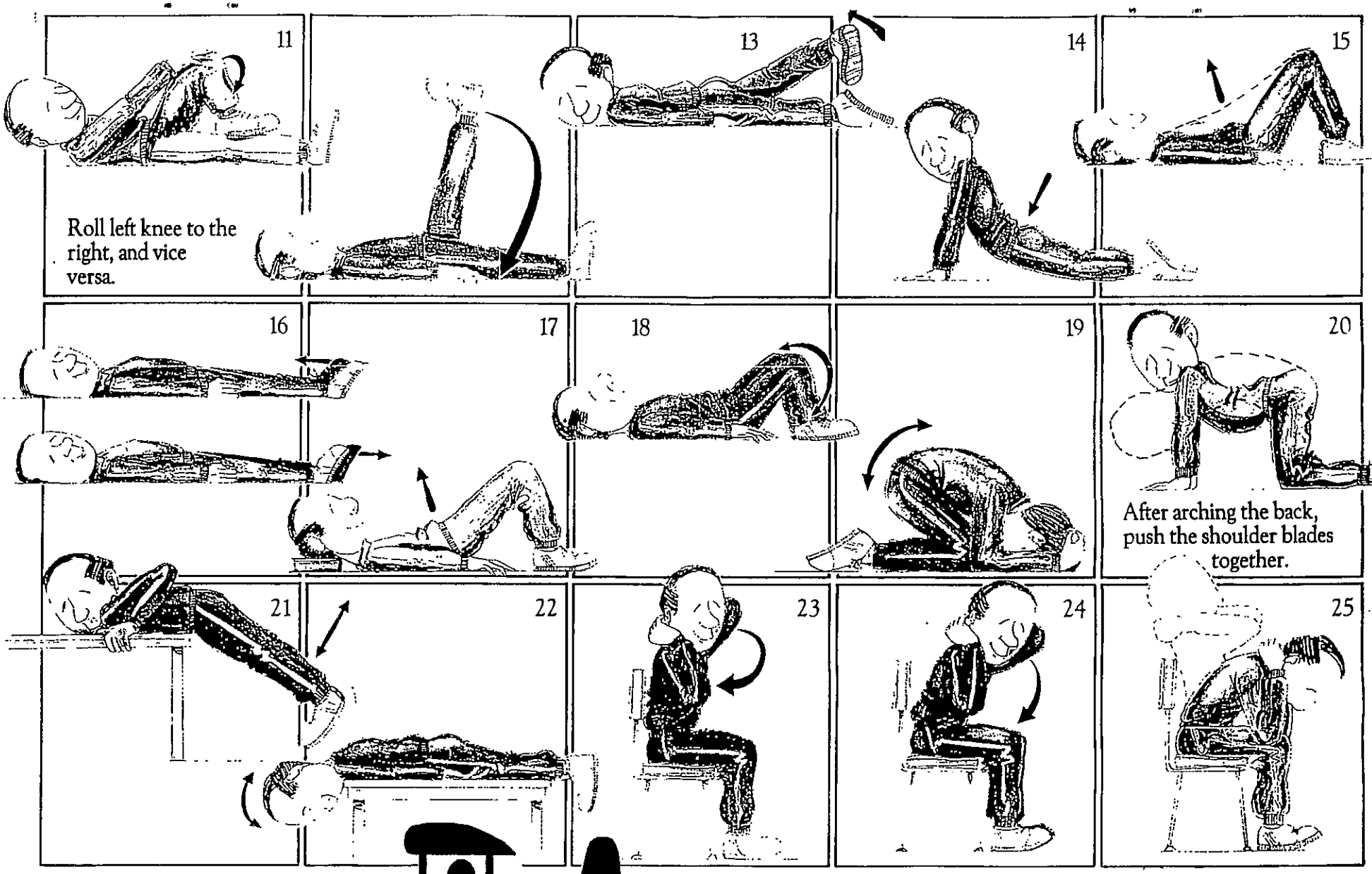
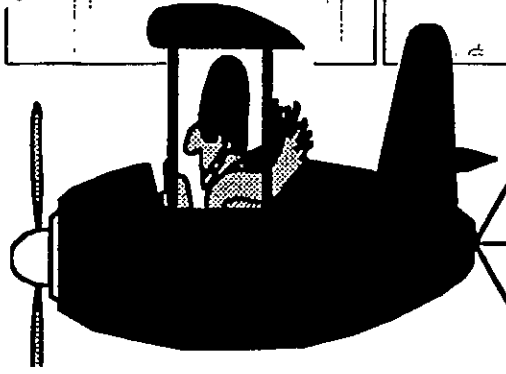




ANNUAL SUBSCRIPTION

Your subscription renewal date is now printed on your envelope address label. Failure to renew by this date will mean missing that month's issue.

BUTTERFLY

This month, we conclude the series on strokes with an article writen by Chris Parsons, Director of Coaching (South)

The newest of the four competitive strokes it takes strength and aggression to swim butterfly as a competitive stroke.
Within Masters swimmers have shown that this is a stroke that can be swum at any age how do those 400 & 800 athletes swim it with such grace?
Technique is of course the major factor in achieving good butterfly. As this is considered by most to be the most difficult of the strokes theyButterfly is often the forgotten stroke. Rhythm, the motion of the body, agility and mobility of the swimmer play major parts also. When swimming the stroke in training for the first time the swimmer has to be aware of what parts of the body bend, reach, stretch, point, kick, extend and at what time each performance is carried out just as they did in the learning phase. In just the same way, as with the learning phase, only short distances should be covered at first. Once the desired plan has been accomplished at one distance then a second distance is introduced i.e. progressing from 3 or 4 strokes at the beginning of each length to 10, 12.5 meters to 25 meters and so on until the desired distance is covered with good form throught the stroke. This may take seasons to accomplish depending on the individual and sessions attended. Remember to go back to the shorter distances again after a break from training. Coaches should allow for this within their programs.

Body position
The body should be flat as possible still allowing for the kick of the leg and undulation of the body which will naturally take place throughout the stroke, this undulation is a reaction of the arm and leg movement along with the raising of the head, or extending of the neck to take a breath.
The downward leg kick will raise the hips as desired and the arms will raise the shoulders and head. Arm recovery lowers the hips ; this then causes undulation which should, unless performing a drill be kept to a minimum.
Body flexibility assists in keeping a more flat position as does the breathing pattern on two or three cycles of the stroke these are often practiced as drills, it is preferable to extend the chin and keep the head low for breathing.

Legs
On commencement of the leg kick, legs & feet are side by side, both feet kick in a downward motion about 50 cm with ankles extended, the resulting up thrust causes the hips to rise as the legs are extended fully, from here the legs rise with the soles of the feet first creating an upward and backward force on the water, the hips then start to drop leading the upper legs and causing knee bend, at this stage the lower legs are still rising, at this point and from this point the knees will bend a fair amount and the ankles will become fully extended. From here the lower leg will start the propulsive thrust downward the more flexible the ankles the better to achieve the whip like action, hip will rise to complete the stroke cycle, begin again. remember that throughout the whole of the stroke there must be no alternating movement of the feet, the dolphin leg action when done correctly will balance your body throughout the stroke cycle, this balance is lost when an alternating action is used.
To gain maximum propulsion from the leg kick, the legs must be efficient

Arms

Important factors are strength and mobility within the shoulders for the propulsive arm action to do justice to this stroke. The arms move simultaneously and continuously throughout the arm cycle. The hands enter the water ideally in line with or just outside of the shoulder line, many factors may prohibit some swimmers from achieving this i.e. prior shoulder injury, amount of free movement within the shoulder girdle area. Once the hands are in the water the catch position is found about 18cm below the surface, hands should be fixed on the water in the direction for the pull, towards the feet. If the elbow is down at this point encourage hand entry with thumbs downward this will assist in keeping the elbow out and upward allowing for more surface area to be in contact for the pull. The weaker swimmer will tend to hold this catch position for longer try to work away from allowing this and work towards the "ideal " Fly stroke. when the catch point is held for too long the continuity of the stroke is lost, often these swimmers will over compensate with the legs.

We now reach the pull push phase of the stroke and can it be described as straight bent straight movement, key hole shape, hour glass or whatever but throughout the hands and wrists must remain firm emphasizing that the palms of the hands continue to face the feet. On leaving the catch position the hands travel with a downward pull, backwards and then sideways. The elbows begin to bend when the hands are around 40 cm below the surface, hands move toward one another in a curved path under the chest, the hands then forcefully move back out toward the hips (check where your hips are) palms rotate inward finishing at the thighs, from this point the recovery takes place over the water. the first part of the arm to leave the water is the elbow, palms facing upwards the hands are carried sideways and forward with a flinging action but should remain relaxed throughout the recovery phase. Arms are now in position to commence the whole cycle once more.

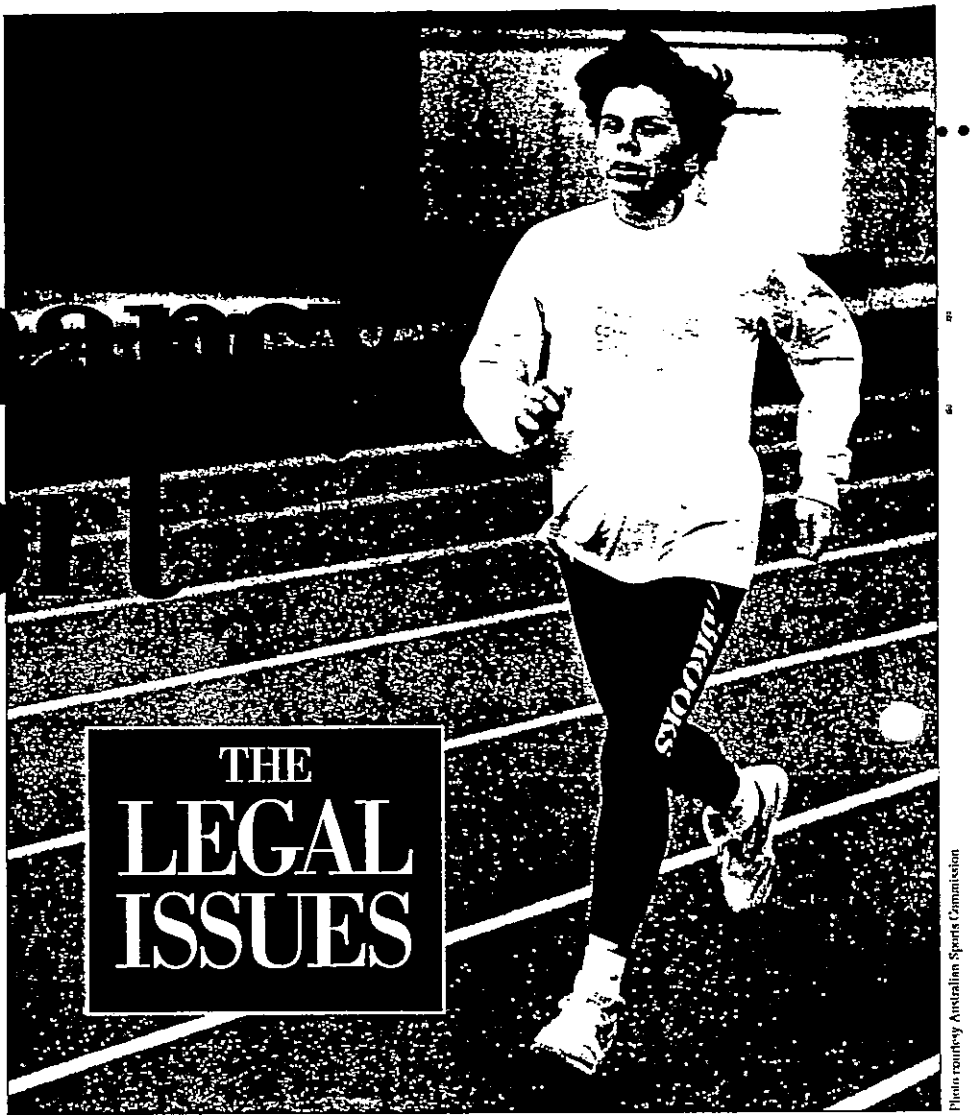
Breathing

Generally a fit swimmer will breath every second stroke but there are those who will breath every stroke and those who breath on three and even those who will breath to the side through choice or efficiency.

The breathing is critical for stroke continuity and efficiency so time taken to get it right is time used wisely. Inhalation takes place at the end of the push phase but preparation to get to this phase starts much earlier because if you wait until your hands are in position to try and lift to get a breath it may be a little difficult. so when the upper body is at its highest point in the water you extend the chin forward. The head and shoulders begin to rise in the push phase and it is at this stage that the chin leads watch for swimmers who tend to lift the head high instead of extending the chin. A breath is taken smartly and the head lowers down back into the streamline position, Explosive breathing is preferred for fly but fitness and ability will determine the cycle of breathing in the early days of introduction.

Generally speaking the coordination of fly consists of two kicks to one arm cycle, one kick takes place when the hands enter for the catch and the second takes place as the hands are at the end of the push phase before leaving the water. It is important to remember that fly can put a lot of pressure on the lower back so again I emphasize only limited amounts of fly to begin with and build up slowly to any distance within a training program. A little often is much better to begin with practice fly drills for technique, use the drills in your training program, Butterfly is a great strength builder when used in training sessions so don't steer clear of Butterfly take the time out to learn how to swim it to the best of your ability and I hope that a little of what you have read here will encourage and assist you to do just that. Good Luck.

Pregn in Spo



THE LEGAL ISSUES

Photo courtesy Australian Sports Commission

This article is based on a paper presented by the author at an in-house seminar in Melbourne in September 1994.

By **LISA COMBEN**, Solicitor with Dunhill. Madden & Butler

Introduction

The link between medicine and sport is evidenced by the burgeoning sports medicine industry in Australia and overseas. In certain areas, lawyers are now being recognised as important 'partners' of sports administrators and sports medicos in ensuring that sports are adequately protecting their players and themselves. A significant medical issue which has recently been recognised as giving rise to liability is pregnancy in sport.

As scientific knowledge and public perceptions surrounding this issue evolve and change, so to do the solutions to the problems that it raises.

The competing interests which must be addressed in taking any policy position on pregnancy in sport are the right of the pregnant woman to play sport and receive the benefits of exercise and the risks to herself and the unborn child.

The two legal aspects which arise from this issue are:

1. discrimination: and
2. liability.

This article looks at the decisions which sports administrators must make in successfully balancing these competing interests.

Discrimination

Any person, including a mother-to-be, has the right to participate in her chosen sport. This right is guarded by anti-discrimination legislation (both federal and state) which exists to protect the rights of the individual.

Discrimination may take many forms, and may be obvious or very subtle. In the context of pregnancy, the legislation covers **direct discrimination**, when a woman is treated less favourably on the basis of the pregnancy, and (under the federal legislation, but not the Victorian) this is not **reasonable** in the circumstances. It is, however, proposed that this 'defence' of reasonableness be removed.

It also covers **indirect discrimination** where the pregnant woman is required to comply with a requirement or condition which is not **reasonable** and with which she is not able to satisfy but which persons who are not pregnant can satisfy. An example of this may be if a pregnant player is put through a vigorous fitness test including activities which would never be required in a game situation.

The question of what is 'reasonable' requires clarification.

Various pieces of discrimination legislation are relevant to the issue of pregnancy in sport. The *Commonwealth Sex Discrimination Act 1984* is examined in some detail to provide an insight into relevant issues.

- *"The first 40 years are the hardest"* - Terry Gathercole

Sex Discrimination Act 1984 (Commonwealth)

Discrimination (either direct or indirect) on the ground of pregnancy is specifically prohibited under Section 7 of the federal legislation. The prohibition applies across various areas, subject to specific exemptions. The most important areas for the purposes of this article are (discrimination):

- by a 'club';
- in the provision of goods, services and facilities;
- in employment; and
- under Commonwealth laws and programs.

Areas of Discrimination

Clubs

'club' is an association (incorporated or unincorporated) of 30 or more members for sporting (or other specified) purposes that provides and maintains its facilities from association funds and supplies liquor for consumption on its premises. A club cannot refuse membership, set out different terms of membership, limit the member's access to a benefit or subject a member to any other detriment on the ground of pregnancy. In Victoria, many sporting organisations are not clubs as they do not supply liquor on their premises.

Provision of Goods, Services and Facilities

A person who provides goods services or facilities (whether for payment or not) cannot refuse to provide them on different conditions, or in a different manner on the ground of pregnancy. 'Services' includes services relating to entertainment, recreation or refreshment. A difficult question is whether a sporting competition is a 'service' within the meaning of the legislation. If so, it is arguable that women cannot be excluded from an indoor cricket competition (for example) on the basis of pregnancy. This is one of the so-called 'grey areas' of the legislation which requires clarification.

Employment

The provisions in relation to employment are extensive. Accordingly, an 'employed' player cannot be excluded from competition on the basis of pregnancy. Section 14 seems to go so far as to prevent the inclusion of a condition in a player contract which (for example) prevents a player from competing after the first trimester, as this may amount to discrimination on the terms or conditions on which employment is offered. A similar position exists in respect of employed coaches and administrators.

Commonwealth Laws and Programs

Administrators or others concerned with the administration of a Commonwealth law or program cannot discriminate against a person on the basis of pregnancy. This covers state or municipal bodies with responsibilities under Commonwealth law. An example is any Commonwealth funded program run by a national sporting organisation.

When an organisation (or its activity) falls within an 'area' of discrimination, it is unlawful to discriminate, subject only to specified exemptions.

Exemptions

In addition to the power of the Human Rights and Equal Opportunity Commission to grant exemptions from the operation of the Act, two principal exemptions apply to each of these areas.

Voluntary Bodies

A voluntary body is an association or other body (whether incorporated or unincorporated) which is not engaged in activities for the purposes of profit. Some sports will fall into this category, and thus be exempt from certain (otherwise) discriminatory behaviour under the *Federal Sex Discrimination Act* (but not necessarily State legislation). Voluntary bodies may discriminate on the basis of pregnancy in:

- the admission of persons as members; and/or
- in providing goods, services or facilities.

Strength, Stamina and Physique

Section 42 of the Commonwealth Act provides a general exemption from a breach of the legislation if a person of one sex is excluded from a competitive sporting activity in which the 'strength, stamina or physique' of competitors is relevant. This exemption does not allow the exclusion of persons from participation in coaching, umpiring or administration of any sporting activity or from any prescribed sporting activity under the regulations.

It seems that this exemption will only apply where one sex is excluded from a game played by the other sex, but will not operate within a single sex competition. Accordingly, it is not appropriate to rely on this exemption to (for example) exclude a pregnant netball player from a women's competition. It is quite clear that this exemption does not operate to allow for (otherwise) discriminatory treatment against pregnant team officials or umpires.

The legislation is complex, and contains a number of areas which require clarification. Note that relevant State legislation must also be examined, as in each case slightly different wording is used, with differing legal implications. A review of the Federal exemptions has been conducted, but to the author's knowledge, the recommended amendments have not yet been made.

Other Legislation

The *Disability Discrimination Act 1992* may also be relevant in the Federal sphere and should be reviewed.

In Victoria, there is now a specific exemption in the new Equal Opportunity legislation (yet to come into force) which provides that a person may discriminate against another if the discrimination is 'reasonably necessary to protect the health or safety of any person (including the person discriminated against).' The scope and meaning of the words 'reasonably necessary' will emerge over time.

Liability

A pregnant woman has the right to play her sport without undue risk to herself or her unborn child. Doctors, coaches and sporting organisations have a duty of care based on suitable advice to provide a safe environment for the pregnant woman. A woman may elect to continue to participate against medical/other advice, but will generally do so at her own risk.

The legal complication in pregnancy is that there are two patients, and only

Seen on a church bill-board when Pauline and Ivan Wingate were training for their first Triathlon

Pain is inevitable; Agony is optional

one is able to give informed consent to play 'at her own risk'. The other (the unborn child) is unable to give its informed consent and can therefore sue for damages. The New South Wales Court of Appeal decision of Lynch v Lynch is authority for the proposition that a child is entitled to maintain an action in negligence for pre-natal injury suffered as a consequence of (in that case) the mother's negligence.

A sporting organisation can seek and obtain the mother's consent to playing whilst pregnant, but an action might still lie at some time in the future against the organisation from the unborn child who suffers injuries as a result of such common occurrences in sport as:

- a collision between the mother and another player;
- the mother slipping or falling on a dangerous or unsafe surface; or
- the mother being hit by a ball (from a dangerous throw).

In any of these situations the child could arguably commence proceedings against:

- the mother — for breach of the duty the mother owed to the unborn child;
- the other player(s) (if known) — for breach of the duty owed to a fellow player (and arguably to the unborn child if she had knowledge of the pregnancy);
- The Club and/or Association for breach of the duty to provide a safe playing or work environment; and
- the coaches/umpires for allowing the game to proceed if unduly rough or unsafe.

It is difficult to fully protect against liability in this situation. A person's rights to sue cannot be taken away except by legislation. Unless and until discrimination laws are clarified in relation to pregnancy and sport, associations must elect to:

1. allow pregnant women to play, with the risk that an action may eventuate at some future time;
2. exclude (or otherwise 'discriminate' against) women, and risk a discrimination action; or
3. formulate policies and rules which work within the limits of the legislation and current medical guidelines.

The latter is clearly the best option, but each sport will make this decision based upon the risk inherent in the sport, its desired public profile, availability of insurance and other factors.

A question which must be examined in this context is the potential economic damage a defendant might suffer if she/it were later sued by a mother or the unborn child. Damages awards in successful discrimination claims have been in the tens of thousands of dollars. The award in *Lynch's Case* was in the millions of dollars.

The difference in size of potential economic losses in each sport may play a part in deciding whether a determination from the Equal Opportunity Commission (that a particular rule or policy is or is not discriminatory) is sought. This is not recommended in all cases.

Conversely, and perhaps more commonly these days, sports are very aware of the need to be 'correct' in their approach to individual rights and discrimination issues, and would find it unacceptable to be labelled 'discriminatory.' This can be very important to sponsors also.

It is worth noting that other occupational health and safety considerations may apply if the pregnant participants are employees of a sporting organisation. The employer may be prosecuted and fined under this legislation if it fails to provide a safe work environment.

Recommendations

The right of the individual woman to choose is paramount in the current regulatory framework, with few exeptions. It must be recognised that steps can and should be taken to accommodate the woman's right whilst having regard to the interests of the sport, the organisation and other participants.

Until and unless discrimination legislation is amended to give further guidance on the issue of pregnancy in sport, sporting organisations must either find the middle ground by way of a non-discriminatory policy, or otherwise determine whether it is in the sports interest to risk a finding of discrimination or alternatively a personal injury award.

Sporting organisations should consider:

1. the current philosophical and legal approach to a woman's right to participate in sport.
2. the sport's status under federal and state legislation (club, voluntary body etc);
3. whether an exemption applies (e.g. the voluntary body exemption, which allows for discrimination in admission and provision of goods/services etc);
4. whether (subject to amendment of the legislation), because of the nature of the sport (e.g. combat), it is 'reasonable' to discriminate on the ground of pregnancy, within the federal (and, if applicable, State) legislation, or not; and
5. whether the provisions in relation to employment apply (if so, conditions of employment cannot be discriminatory).

It is then recommended that a sport, with its coaches, legal, medical and other advisers, determine the appropriate approach for that sport, which may be to:

1. formulate recommendations/rules about women's participation, within a policy, that demonstrates a non-discriminatory approach, but emphasises safety;
2. ensure all women sign up to a non-discriminatory pregnancy policy, by signing a registration form of a club, which refers to a 'pregnancy by-law policy' and reflects and adopts that by-law policy; or
3. seek a determination or exemption from the legislation from the relevant authority.

The most appropriate approach is a question to be determined by each sport having regard to its particular circumstances. There are no cast-iron guarantees. It is possible that a policy will be construed to be discriminatory within the meaning of the legislation. Until changes clarify the legislation and/or specifically provide a 'formula' for dealing with pregnancy in sport, sports must act to set up policies which best protect their interests and those of their players, including the pregnant player, having regard to the particular circumstances which operate in that organisation. As a matter of policy, consideration should be given to the application of a pregnancy policy to young women (juniors) also.

As we grow older, we gain experience, wisdom and a wealth of knowledge - trying to remember however, is a worry.

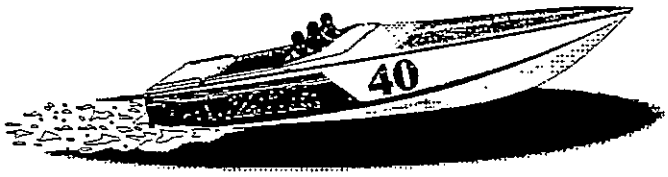
SWIMMING SMARTER NOT HARDER

by Terry Laughlin
Total Immersion Swimming

As a swim coach, who teaches some 1,000 adult swimmers in weekend workshops each year, I've learned that most of what they *"know"* about swimming is wrong. It is too complicated, frustrating, and almost certainly wastes energy and time by having them concentrate on the wrong things: yards and more yards, mindless repeats and intervals, kickboard, fin and paddle training with no proven benefit. I teach them to replace ineffective training strategies with what I call *"effective swimming"*.

The foundations for **Total Immersion** were laid in 1972, on my first day as a coach. I noticed that I had a few gifted swimmers who were able to swim fast with little visible effort. Was this an inbred gift or could it be taught, I wondered. Time after time, average swimmers would make far more progress when I reduced hard training, and increased technique teaching.

Then, in 1988 I met **Bill Boomer**, and subsequently left conventional coaching to work exclusively on teaching stroke technique to adults. At a coaches' clinic Boomer took the podium, and posed a revolutionary question: *"How can we teach people to swim, at any given speed, with less effort* ?" His answer was just as disarming: *"By reshaping the vessel"*. Swimmers, like boats, had to move through water and Boomer felt there were ways to improve their *"hull designs."*



I knew he was onto something, and working exclusively with adults gave me a unique opportunity to test, develop and refine these ideas. My modestly skilled and experienced students forced me to distill complex ideas into a series of simple, logical exercises that anyone could do. And since I had only two days with them, the program had to be easily understood, quickly absorbed, and simple to practice after I was gone.

Over the last seven years, it has become clear that the usual *"on-your-laps"* habit was not only ineffective, it could well be harmful. With inefficient form, working out is nothing but practicing your mistakes. And swimming must be practiced more as a skill sport like tennis or skiing than a power or endurance sport like running or cycling.

Many people believe that an effortless stroke is a prize reserved for the lucky few who won the genetic lottery or spent most of their waking adolescent hours grooming it. Not true, it can be taught ... and learned. **Lou Fiorina**, an exceptional teacher who often coaches at Total Immersion workshops, remembers watching **Rowdy Gaines** and **Tracy Caulkins**, two American swimming legends, at a clinic some years ago and thinking: *"It must take amazing gifts to be that fluid and graceful"*. Years later, he watched Bill Boomer teaching a group of average college swimmers, and was astounded by what he saw. *"As I watched, their strokes began to show similar grace and elegance, and I suddenly realized that this stuff was teachable, that ordinary swimmers could learn to swim like elite swimmers and they could learn it fairly quickly."*

Today that happens routinely at Total Immersion swim camps because every minute of Total Immersion pool time is devoted to building proper technique by replacing time-wasting *"workouts"* with efficient and focused *"practice,"* adopting as a motto: *"Fitness is something that happens to you while you practice proper stroke technique."*

So what exactly is stroke mechanics ? Most people think it's what your arm does to propel you. But your armstroke actually has little impact on how fast you move through the water. That's because water is 1,000 times denser than air and throws huge drag forces against anyone who doesn't know the tricks of becoming slippery. Learning to cut that drag by improving your body position could well give you a 20 to 30 percent speed boost in just a day or two. Here's why.

The most basic formula for how we produce swimming speed is this: V = SL x SR. In plain English: Velocity equals **Stroke Length** (how far you travel each time you take a stroke) multiplied by **Stroke Rate** (how fast you take them). And while your instincts tell you to swim faster by stroking faster (i.e. increase your V by raising your SR), empirical data shows that the world's best swimmers do it otherwise.

In 1984, Bill Boomer and some colleagues from the University of Rochester recorded every stroke taken by every swimmer at the U.S. Olympic Trials trying to analyze how the best swimmers produced their speed. They found that, long event or short, the fastest swimmers took the fewest strokes.

Similar data was collected by **D.J. East** at the 1970 New Zealand Nationals. When **Rick Sharp, Ph.D.**, director of the **International Center for Aquatic Research (ICAR)** in Colorado Springs compared the data from the two studies, he found that the winning times from all events at the US meet averaged 17% faster than those from the N.Z. meet. His analysis showed virtually no difference on the SR side. The huge advantage in V had been created entirely on the SL side. Then he compared the finalists and non-finalists in the US meet, finding an average 3% difference in time (V). In 9 of 11 events that difference was accounted for by greater SL, not SR. In only 2 of 11 events was it created by greater SR.

This gives us **Total Immersion Axiom #1:**

The genius of great swimmers isn't how fast they stroke; it's how far their bodies travel every time they take a stroke !

There are two ways to make this happen:

1. More propulsion– using your hands and feet to thrust your body farther through the water as powerfully as possible, and
2. Less drag–shaping your body so it's more friction-free, allowing it to travel farther with the power each of your strokes is already producing.

Of course in the water, your instincts *"know"* just what to do. Pull harder, kick harder, spin your arms faster. All wrong, of course. We know that because Rick Sharp did more analysis of data that had been collected over 10 years at ICAR and found a rather surprising phenomenon. In a striking number of instances, world- class swimmers produced LESS propulsive force than non-elite swimmers in the same event. Says Sharp *"Obviously they were capable of producing more; they just didn't NEED to."*

Thus we have **Total Immersion Axiom #2:**

The second genius of great swimmers isn't how powerful their strokes are; it's how slippery they can make their bodies.

Makes perfect sense, when you think about it. Because when you're trying to PULL your body faster, all you have to work with are those puny hands, pushing against water that just swirls away as you push, but when you instead loosen the water's grip on your body, your stroke length grows by leaps and bounds.

So now we can begin to make that formula, V = SL X SR, work for us by learning to position your body so it moves as far as possible with each stroke (SL). Virtually every Masters swimmer I coach already has all the SR they'll ever need; it's the SL they're lacking. They always make their most dramatic improvements when they give up a bit of their SR in order to gain a lot of SL. Besides, energy consumption increases as a cube of muscle movement speed, so stroking twice as fast burns eight times as much energy. Not a great return on your investment. Learn to keep your body long, balanced and sleek and you'll boost performance far faster than anything you can do with your hand.

That's welcome news to people who have been told that pulling and kicking harder and faster (and training enough to build the endurance to do that) is the way to gain swimming speed. No matter how good or how powerful your stroke, if your body lurches too abruptly to a halt after each one, you have no choice but to keep those arms churning. Once you learn the knack of slippery swimming, not only will your swimming improve, but so will your bike and run. It comes naturally to fish, but the rest of us can learn it too.

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FOR DETAILS ON TERRY LAUGHLIN'S AUSTRALIAN WORK - SHOP, SEE PAGE 3 OF THIS NEWSLETTER.

The following workouts are continued from an article printed in the February 1995 issue (Vol.7 no.1) and continued in successive issues since, from Masters Swimming Canada. The article was titled ' Sept. - June Swim Workouts ' by Jamie Connors.

INTERMEDIATE

OCTOBER

Monday	Wednesday
12x50 choice :10	8x75 odd - free :20 even - stroke :20
2x400 (200 fr [4:30] + 4x50 str. [1:20]) 1:00 min rest between	4x200 free 4:30
4x100 choice kick :20	8x50 25 bk drill/ 25 full stroke
1x100 easy	50 easy
Total 1900	Total 1850

Friday	Monday
4x150 (100 swim +50 kick) :15	warmup 25 fly-50 bk-75 br-100 fr-75 br-50 bk-25 fly
2x400 1) fr 2:20 2) fr/str. 2:40 3) fr 2:20 (hard)	2x200 free 1) swim `breath control' 2) pull 100 easy
4x75 25 - best kick 25 - stretch breast 25 - full stroke	12x50 (3 sets of 4) 1) fr 1:15 2) fr/str. 1:30 3) fr 1:15 4) str. 1:40
	4x75 25 kick/25 swim choice 2:15
Total 2100	Total 1800

Wednesday	Friday
6x100 25 drill/25 swim :20	5x100 25 drill/25 swim :20
6x125 1-3: 100 fr/25 str. :30 4-6: 25 str./100 fr	4x150 pull free :30
10x50 1-4: bk drill/bk 1:45 5-8: br drill/br 9-10 choice	1x150 swim 4x100 choice kick :20
Total 1850	Total 1650

INTERMEDIATE

OCTOBER	
Monday	**Wednesday**
12x50 1-4 drill/swim free :15 5-8 stroke 9-12 free 8x100 25 smooth - check stroke 2:30 75 swim fast 2:40 4x125 25 no-board kick + 100 swim stroke 3:20	8x75 25 kick/25 drill/25 swim 1-4 stroke :20 5-8 free 4x200 free 4:30 10x25 alt. drill/sprint choice :50 50 easy
Total 1900	Total 1650
Friday	**Monday**
4x150 50 swim/50 kick/50 swim :20 12x75 odd - bk,br,fr 2:15 even - free 1:45 8x50 25 fr/25 stroke 50 ez	2x300 build pace 50-150 & 200-300 1:00 6x150 1-3 build 50's 3:20 4-6 steady pace 8x50 50 kick 25 hard/25 easy :15 alternate with 50 swim
Total 1900	Total 1900
Wednesday	**Friday**
2x300 {150 stroke (:30) + 6x25 free (:30)} 10x100 1-3 free 2:20 4-6 stroke 2:45 7-10 free 2:20 12x25 3's easy/hard/very hard :40	12x50 3 free :10 3 choice 3 free 3 choice 3x300 (150 fr + 6x25 kick) :30 2x75 breast 25 glide/50 swim 50 easy
Total 1900	Total 1700

- *"Coaches manage the athletes, and Psychologists coach the coaches."* - Australian Men's Water Polo Coach, Charles Turner.

New T Shirt design this year!

BADDAGINNIE AUSSI
INTERNATIONAL POSTAL EVENT

sanctioned by AUSSI NATIONAL EXECUTIVE

BADDAGINNIE ANIMALS ARE AWESOME

An *ANIMAL* is defined as a gutsy performer who can do 800m Freestyle, 200m Breaststroke, 200m Backstroke, 200m Butterfly and 400m Individual Medley all in one day.

Enter this international postal challenge, swim the listed events in one day and receive a T-shirt proclaiming that you are a "Baddaginnie Animal".

Send your entry form, certification and $A25.00 (Australian) or equivalent and we'll send your Baddaginnie T-shirt. No swim times are required. Club entries are appreciated.

ENTRIES TO: **Baddaginnie AUSSI Animal Event**
54 Benson Street,
Benalla,
Victoria, 3672
AUSTRALIA

DEADLINE: **Postmarked October 31, 1996**

Overseas entries returned by seamail (approximately three months).

✂.....

ENTRY FORM

NAME: _____ CLUB: _____

ADDRESS: _____

CITY: _____ STATE/PROV.:_____ POST/ZIP CODE: _____

COUNTRY: _____

I certify that I swam the following events on one day: 800m Freestyle, 200m Breaststroke, 200m Backstroke, 200m Butterfly and 400m Individual Medley.

DATE: _____

I attest and verify that I have full knowledge of the risk involved and am physically fit and sufficiently trained to participate in this event.

T-shirt sizes: (please circle) S M L XL XXL

Signature: _____

Witness: _____

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 hire charges:

1 Video	1 week $5	2 weeks $8
2 Videos	1 week $8	2 weeks $12
3 Video	1 week $10	2 weeks $15
1AudioTapes	1 week $3	2 weeks $5
2 AudioTapes	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. A good video made better by the booklet

♦ Mark Tonelli Gold Medal Series - Best for novices in that it is simplistic, non-the-less it is very well put together with good camera work and footage.

♦ AUSSI Coaching Seminar - with Kirk Marks

♦ The Athletic Institute Swimming Series
1- Freestyle and Backstroke
2 - Breastroke and Butterfly
3. - Starts, turns and progressive drills

♦ AUSSI Workshop - Tailoring a Programme, plus booklet. This video held in Tasmania features Anita Killmier

♦ Stretching - Bob Anderson - A really great selection of exercises demonstrating correct technique.

♦ Food for Sport- featuring Karen Inge. Very good!

♦ Masterstroke Technique (not to be confused with the other video of the same name) - This video was taken at the weekend workshop by the same name, held in Queensland

♦ Your Backyard Pool is your Home Fitness Centre - as the name suggests, gives ideas to utilise your pool to full advantage.

♦ AUSKA - Swimming Strokes - this British production covers technique and drills in all 4 strokes.

♦ Masters Stroke Techniques - A biomechanical analysis of the 4 strokes with demonstrations of drills by Masters.

♦ ASCA Conference - Masters Stream - Adelaide 1992

♦ Strength Training - This 30 min video provides a comprehensive update on the methods and principles of strength training, ie
Body Building
Isometrics
Maximal Weights
Eccentric exercises
Excellent for swimmers and coaches about to embark on a strength programme.

♦ Visualisation - Focusing Techniques and mental rehearsals are used extensively by all top athletes to enhance performance. This video gives a comprehensive look at the use of visualisation in sport through various case studies.

♦ Media Matters plus booklet - This is hired to you as a kit and is designed for individuals and voluntary groups involved in promoting fitness and healthy lifestyles in the community. It can be used to publicise and attract members, hence is ideal for AUSSI clubs.

♦ Exercise Beats Arthritis - A unique series of exercises set to music, designed to keep joints mobile.

♦ Give it a Go. Coaching athletes with disabilities.

♦ Every Second Counts - Video plus booklet. Effective Time Management in sports training. Whilst this video is not specific to swimming it gives many good examples of how time is wasted in coaching. A good tool for staff workshops or self evaluation.

AUDIO TAPES

♦ *The Creative Performance Institute*
1 - Guided Imagery for Racing Risk Taking and Racing
2 - Guided Imagery for Training Commitment and Training Today.

♦ *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 Coach
4 - Blood Lactate Responses in Masters Swimmers During Active and Passive Recovery - Dr Peter Reaburn
5 - Utilisation of Time and Space for Swimming
6 - Physiological Considerations in Tapering Swimmers - David Pyne
7. - Coaching Butterflyers - Doug Frost
8 - Training and Racing the IM - Dick Shoulberg
9 - The importance of Teaching Good Technique - Laurie Lawrence
10 - The AUSTSWIM Swimming Programme - John Kilpatrick
11 - Long Distance Swimming Training - Dick Campio
12 - High Altitude Training - Ian Findlay
13 - Coaching the Elite Distance Swimmer - Ian Findlay

AUSSI RESOURCE CENTRE - ORDER FORM

Name _____
Address _____
_____
Post Code _____
Phone No. _____
AUSSI CLUB _____

I request the hire of the following items

1. _____
2. _____
3. _____

I would like to hire them for a total of _____ weeks commencing (date) _____

I agree to return them in good order complete with my cheque for hire and postage. In the event these items are unavailable by the request date I would/would not like them to be sent when they become available.

Signed _____
Date _____

Order form and cheques payable to "AUSSI"
PO BOX 207
Marleston SA 5033

AUSTALIAN MASTERS SWIMMING COACHES NEWSLETTER SUBSCRIPTION FORM

AUSTRALIAN SUBSCRIBERS ***$16.00 - 4 ISSUES***

OVERSEAS SUBSCRIBERS ***$24.00 - 4 ISSUES*** **(Bank Draft only)**

Please send me one years subscription of the Australian Masters Swimming Coaches Newsletter.

NAME _____

ADDRESS _____

_____ **POSTCODE** _____

Please tick ☐ **Subscription Renewal** ☐ **New Subscription**

Please detach and send the whole page. Cheques are to be made payable to 'AUSSI'
Send to AMSCN c/o 27 Johnstone St Malvern VIC 3144 Australia

Office use only:

FEB

MAY

AUG

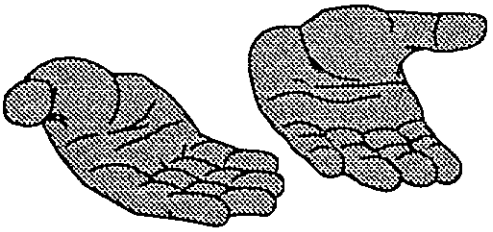
NOV

MASTERING SWIMMING
A self-help guide for coaches and swimmers - Edited by Anita Killmier

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.

New Edition is now available RRP $29.95

Cheques including postage and handling payable to ;
AUSSI
c/o PO BOX 207
Marleston SA 5033



WANTED

Contributions such as letters, up coming events, club profiles, sample training sessions, poems etc..

DEADLINE FOR NEXT ISSUE
NOVEMBER 1