

AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

AUGUST 1994

1994
THE YEAR
OF the
COACH



VOLUME 6 NUMBER 3

The World Masters Games are upon us and although I am unable to go, past experience has proven that Queensland (and in particular the Queensland Branch of AUSSI) can run a first class international competition.

Having experienced the huge success of the 1988 World Masters Swimming Championships in Brisbane, we can assume that six years later, this multi sport Festival will be even bigger and better.

It is apparent that the move toward Masters Sports participation is on the rise. So too, is the interest in knowledge and research into every facet of sport for the mature aged.

For coaches and "students" of the subject I have reprinted a summary of a "Selected Annotated Bibliography" produced by the National Sports Information Centre on Mature Aged Sport.

Ron Burns, a consultant with the Australian Sports Commission comments:

"One thing that became apparent to me during my research for the Masters Sport Project was there seemed to be a shortage of literature on the subject of mature aged people and sport. During my two years on the Project I came in contact with a number of researchers who were doing thesis at Honours or Masters level in the area of mature aged sport who also indicated that their literature searches had not produced a very large variety of references.

This bibliography will fill a very obvious need in this field of research and its annotations will make it a very efficient instrument for those wishing to investigate not only this area of sport, but also the range and effect of physical activities for the mature aged population.

...hopefully making research sources more accessible will promote research in this area of sporting activities."

In this issue you will also find an abridged article on acclimatising to cold water. Our endurance swimmers spend hours in water we would not consider dipping our big toe into. Yet this is not a superhuman feat, or madness. Even the Icebergers, who swim year round in the oceans may be better understood by reading this story.

Be warned though! To embark on a system of acclimatising is not for the faint hearted - literally. Sudden immersion in cold water will not only take the breath away, but will cause sudden constriction of blood vessels which could put the aging swimmer with potential heart problems at considerable risk.

On the coaching scene, Cec Colwin discusses the sensitive issue of coaching and criticism on page 15.

You either love them or hate them and the teaching world is divided in their usage, but the Russians have been using fins and snorkels to improve their swimming. To find out how, turn to page 17.

In the area of stroke technique, Chip Zempel shows how to improve your catch on freestyle and two articles beginning on page 20 discuss Butterfly kick and Butterfly drills.

As a second time around expectant mother I can certainly vouch for the feeling of well being my swimming has given me as my pregnancy progresses. The experiences of other Master's swimmers is documented in an article titled "Swimming through Your Pregnancy" on page 24.

What is NOT stated and is often overlooked however, is when to resume swimming post birth. There is evidence to suggest that whilst light to moderate land based exercise may be resumed almost immediately, there are contra-indications to resuming swimming before six weeks. This is largely to do with uterine infections that can be contracted by immersion in pool water (particularly in public pools whose water quality may be somewhat suspect). Please consult your obstetrician for advise BEFORE resuming swimming.

To all swimmers competing at the World Masters Games or the Honda Central Australian Masters Games I wish you well, and ask you to consider travelling to Melbourne next year in October. The Victorian Branch of AUSSI will be hosting the Vichealth Australian Masters Games. For more details send the Expression of Interest form below.

INTERVAL TRAINING

by Mark Spitz

If you want to swim faster in races, you have to swim faster in practice. While that may sound obvious its an important point that a lot of distance swimmers lose track of in their obsession with more kms the better.

After developing a base of aerobic endurance through long swims and short rest interval training you begin to reach a point of diminishing returns. You attain a certain level of conditioning and then plateau out.

Once you establish your aerobic base the next step to continue improving is speed work. By that I mean to swim faster than your race pace so you cross into the dreaded oxygen debt. Speed work is characterised by three things:

1. short swims ie. 100 metres or less
2. longer rests between swims
3. a high intensity level.

With the use of speed work you are trying to go beyond just conditioning your heart and lungs. You are concentrating on conditioning the metabolic pathways and neural patterns in your muscles. In other words pushing your anabolic threshold (AT) higher.

Long rest, high intensity swimming, doesn't just put a fine edge on your aerobic condition. Once you get the feel for it you may also find that it is a refreshing change from constantly trying to cram in the maximum amount of metres into each work out. Learning to swim faster can improve your commitment to improving, restore your confidence, enthusiasm and thirst for competition. Instead of describing the many interval training sessions and the benefits derived from them I will make mention of over-speed training which is a technique of speed work not often seen in books.

When you swim 65 sec for 100 m and then 95 sec your body positions altered, and the feel of the water has also changed. You may be thinking "I'll never swim 65 sec for 100 m" but you probably can with the use of fins. Fins help flexibility and increases efficiency allowing more oxygen available for your arms. Fins also help you swim faster. This sort of training can be described as over-speed training. The theory behind over-speed training is the opposite of overload, resistance training. Rather than trying to make you faster by slowing you down and forcing you to work against greater resistance (eg. by the use of paddles and drag plates) over-speed training tries to make you faster by swimming far faster than usual.

The objective is to improve overall efficiency by refining your skills and training your nervous system to accelerate faster to utilise muscle fibres more effectively. It is a practical application of the understanding that just strength isn't as important as how efficiently strength gets transformed into forward motion.

Putting on a pair of fins and swimming the complete stroke can improve your streamlining, arm speed and hand acceleration, while giving you an opportunity to learn what it feels like to swim really fast.

Only a small portion of your regular swimming should be done with fins on and most of your kicking drills should be done barefoot.

In the end there is still no substitute for quality swimming. The three most important elements are technique, technique and technique. A fourth element that could be added to become a faster swimmer is plain old fashioned hard work.

EXPRESSION OF INTEREST

Please complete this tear-off section and post or fax to:

**VICHEALTH 5TH AUSTRALIAN
MASTERS GAMES
GPO BOX 2392V
MELBOURNE VIC 3001 AUSTRALIA
PHONE: (03) 666 4214
FAX: (03) 666 4232**

Surname Mr/Mrs/Ms _____

Given Names _____

Address _____

Postcode _____

Country (if applicable) _____

Telephone Home _____ Business _____

Fax _____

Sport(s) _____

TRAVEL AND ACCOMMODATION REQUIREMENTS

• Will you be travelling:

alone ☐ accompanied ☐

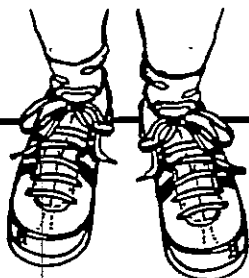
• How will you be travelling?

aeroplane ☐ train ☐ bus ☐ car ☐

• What are your likely accommodation requirements (if not staying with friends)?

hotel ☐ motel ☐ apartment ☐ homestay ☐

• How did you obtain this brochure? _____



MATURE AGED SPORT

A Selective Annotated Bibliography

Leverrier Crescent, Bruce ACT 2617
PO Box 176, Belconnen ACT 2616
Telephone (06) 252 1369
Facsimile (06) 252 1681
Telex AUSIS AA 62400

This is a collection of over 400 references concerned with Mature Aged Sport. With the growing number of active participants in the over 50, over 65 and older age-groups the interest and research into the unknown aspects of physical activity and ageing is gaining momentum. The future offers greater quality of life for a longer span and exercise, physical activity and sport will play an expanding role for a growing number of the population.

This collection is concerned with information pertaining to; mature aged, masters, master athlete, veteran, aged or older adults and sport, exercise, physical activity and/or recreation, published in the English language after 1987 (references published prior that have been indexed on Sport database since 1987 are also included). Some research based on older adults in institutions is also included, under the concept of physiological testing or exercise program, despite the absence of a direct link with sport or exercise. It should also be noted that a large amount of the literature appears in specialist periodicals in the medical, gerontological and psychological streams and as such is not held by the NSIC. All references are clearly marked.

References were gathered from the Sport Discus, Sport, and Medline Databases as well as the Journal Documentation Service operating at the National Sport Information Centre and includes books, journal articles, pamphlets, conference proceedings and microform documents.

Annotations or abstracts are provided for references published during the last three years, 1990-1993, (some 'basic' level references are not annotated) and references are presented in order of publication with the most recent first. A category displayed as 'LEVEL' has been provided as a guide for the reader. An **advanced** level reference usually pertains to original research of a scientific nature and requires and assumes a high level of background knowledge and understanding. All advanced level articles are accompanied by an abstract. An **intermediate** level reference requires some background knowledge and terminology familiarity and/or involves discussion of a semi-technical nature. **Basic** level references are freely understood by most readers, offering examinations and discussions with generous explanations.

SAMPLE RECORD

ACCESSION NO'	0269621
TITLE	Getting the Facts
AUTHOR(S)	Pepper,-S
JOURNAL/VOL/YEAR	Recreation Canada (Gloucester, Ont) 48(4), Oct 1990, 45-46
ABSTRACT	LEVEL: Basic A survey of 1,000 seniors results in recommendations for improvements to programs and facilities for better winter accessibility for seniors. KEYWORDS: aged, facilities, survey

CONTENT LAYOUT

Fifteen sections have been designated for the topic. These are;

1. **GENERAL REFERENCES:** dealing with references aimed at the topic in general as an introduction, discussion, review, commentary or overview presentation. Mostly **basic** or **intermediate** level references.
2. **ADMINISTRATION:** dealing with policies and procedures, tournament administration and guidelines, certification and legislation. A small section, with mostly **basic** references.
3. **BENEFITS AND EFFECTS:** dealing with references presenting the outcomes of exercise and physical activity on older adults. Slowing the ageing process, increasing quality of life and why should older individuals exercise are topics included in this section of mostly **advanced** and **intermediate** references of the benefits of exercise.
4. **BIOGRAPHY:** Offers biographical references concerning master athletes that have achieved in their quest, whatever it may be. The elite, the interesting, the determined and the surprising achievements are detailed in these easy-read and inspiring reports about individuals in sport.
5. **BIOMECHANICS:** offers **advanced** references that evaluate the mechanics, efficiency, contributions and outcomes of various research projects concerning mature aged adults
6. **COMPETITION:** dealing with the structure and reports from senior Olympics, World Senior Games, Masters Nationals (U.S), World Veteran Games and local competitions. Mostly personal accounts or overviews that are of a 'basic' level.
7. **CONDITIONING AND TRAINING:** offers specific references to weight and strength training for the older adult, aerobics, water and other exercise varieties. Included in this mixed section are a number of books that are concerned with fitness, getting fit and exercise for masters. All levels of references, mostly **intermediate** and **basic**.
8. **EXERCISE PROGRAMS AND PRESCRIPTION:** deals with all levels of references that pertain to full programs developed for single or multipurpose use. Also included are those references that examine constructing or prescribing exercise/activity programs, with guidelines, principles and considerations presented.
9. **MEDICINE AND INJURY:** offers a range of references on risk factors, injuries, medical conditions, safety precautions and sudden death. A range of levels from basic safety to advanced lumbar spine surgery
10. **NUTRITION:** offers references dealing with energy expenditure, diet and nutrition specifically. Mostly **basic-intermediate** level.

11. **PARTICIPATION:** details a range of references that pertain to participation of older athletes in sport and exercise. Motivation, constraints, opportunities, involvement, perceptions, attitudes and the role of physical activity in life, is the subject of this section.

12. **PHYSIOLOGY AND ANATOMY:** offers mostly advanced and abstracted references pertaining to physiological aspects, involving older adults and physical activity. Physiological responses to testing, effects of ageing on systems, lactate measurements, cardiovascular responses, clinical trials, strength and muscle function, metabolic and neurophysiological aspects, inactivity effects, overtraining, peak anaerobic power, hormonal characteristics, ECG readings, vasodilatory capacity and perceived exertion are detailed.

13. **PSYCHOLOGY:** details psychological variables in older adults, including mood states, motivation, attention, well-being, cognitive behaviour, happiness, adherence, self-perception and depression. Mostly **intermediate -advanced** level references

14. **SOCIOLOGY AND HISTORY:** presents references that deal with historical, sociological, demographical, economical, cultural and gender-based discussion on older athletes. Some quality-of-life discussion is also present.

15. **SPORT SPECIFIC REFERENCE:** dealing with any of the above categories in reference to a particular sport or competition. Sports include: baseball, climbing, cycling, dance, golf, martial arts, netball, orienteering, rowing, running, skiing, swimming, Tai chi, track and field, wheelchair sports and windsurfing. Most references are **basic** and **intermediate**

'Material listed in this bibliography comes from material held in the NSIC. The NSIC is not the author of those materials and is not responsible for the accuracy of the information contained in them. If you intend to rely on the information supplied you should first satisfy yourself of its accuracy.'

The document is designed as a central source of literature, covering journal articles, books and other publications on this topic. It includes over 400 references from 1987 until November 1993 and it is foreseen that updates of information released following this period will also be produced every 3-6 months to maintain a valid source.

This publication sells for \$AU25.00 and visa card or mastercard (only) payments are accepted.

Information regarding the details and supply of this publication are available from the National Sport Information Centre on phone (06)2521369 or Fax (06) 2521681.

A team which has become a winner has done so by certain individuals setting and reaching goals for themselves.

Progress is our most important product.

THE OLYMPIC MOVEMENT AND ITS AIMS

- To promote the development of those physical and moral qualities which are the basis of sport.
- To educate young people through sport in a spirit of friendship and better understanding between each other, thereby helping to build a better and more peaceful world.

continued on page 18

Many roles of the coach

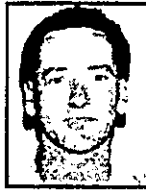
AS THIS year is The Year of the Coach, I thought I would explain how coaches go about doing their job.

Being an accredited coach involves far more than simply setting a program and standing on pool deck watching people swim.

We firstly gather knowledge of swimming performance through training courses and seminars. Secondly, we apply that knowledge in training sessions for the benefit of our squad.

So, to begin, an overall strategy is needed; a strategy based on three basic principles of training - specificity, overload and progression. Although there are many ways to condition the body, they all depend on these three principles.

Specificity: For training to be effective, swimmers need to make the same demands on their bodies in practice that are made on them in competition. Swimming at race pace is an example and all types of training should involve all the metabolic processes that supply en-



COACH'S
CORNER

ergy during a race.

Put more clearly, there are specific forms of training that should be included in competitive swimmers' programs - speed, VO2 max, anaerobic threshold, lactate tolerance and race pace. In the next issue, I will explain what these forms of training are and their effects.

Overload: The most effective training occurs when you make truly challenging demands on your various energy-restoring metabolic processes. Creating these demands is called overloading. For example, if exercise creates a demand for greater than normal quantities of oxygen to working muscles, then certain adaptations take place so that more oxygen is delivered.

The demands must be of sufficient intensity to stimulate adaptation and training needs to be paced correctly for peak performances. The most effective training occurs when swimmers swim at speeds that are appropriate for improving each metabolic process.

Progression: When you overload specific metabolic processes over a few days, a sensation of reduced effort occurs. This indicates that certain physiological adaptations have taken place and that your training is no longer in the overload zone. If you continue to train at that same intensity, you will only maintain, not improve, your conditioning. You need to increase your training until you have, once again, overloaded. This continual increase is an example of the principle of progression.

Systematic attempts to increase training intensity may encourage certain metabolic adaptations to take place more rapidly than by simply waiting for them to happen. The most effective method of increasing

intensity is interval training.

Interval training: This involves completing a specified number of repeats at a prescribed speed and with a specified rest period between swims. There are four variables: the number of swims; the distance of each swim; the average speed of each swim; and the amount of rest between swims. Progression, as well as specificity and overload, can be applied rather easily with interval training, simply by manipulating one or more of the four variables. For example, a distance swimmer will start a season doing a set of repeat 100ms with a rest of 30 seconds. Over the course of the season, the rest interval should be reduced i.e. 25secs down to 10secs. This should condition them to swim longer without fatigue. These principles of training apply to all sports, including masters swimming and, together with good technique, are the basis of a successful training program.

- JOHN ORNSBY

COACH PROFILES

Name: Eddie Skilbeck
Club: Warrnambool
(five years)

Age: 66
Occupation: Retired
Live: Warrnambool
Married: To Thelma, five children, two grandchildren
Swimming: Not a swimmer
Coaching: Began coaching football in 1951, swimming (Learn to Swim classes) in 1955. Became more fully involved in 1970 when son Russell was diagnosed with a respiratory condition. Coach of amateur clubs Ballarat YMCA for 12 years, Garden City Olympic for seven years (life member of both clubs). Coached Midland District Development squad and was the Victorian country officer for the Coaches Association. Has coached Masters for 11 years and has Level 2 accreditation. What he loves about coaching: Seeing people achieve their goals, achieve personal success.

What he hates about coaching: Demanding parents when coaching children.

What makes a good coach: Dedication and commitment.
Best memories: Developing Garden City Olympic from a small club to one of the state's best; receiving a service award for Midland District coaching; teaching Thelma to swim at 63.
Other interests: Surf fishing, golf, life member Ballarat Fire Brigade.
Favorite food: Vegetarian.



Name: Jeff Planner
Club: Frankston
(more than 10 years)

Age: 37
Occupation: Insurance claims clerk.
Lives: Frankston
Married: To Anne, two children.
Swimming: Swam as a teenager with Frankston Peninsula, winning silver medal for 100 m breaststroke at country c'ships and making state finals. Trains with Frankston AUSSI Masters twice a week.

Coaching: Junior squad for eight years, taught Learn to Swim at Mornington two years. Coached at Mentone Grammar from 1976-1988. Coached Frankston Masters three years. Completed Advanced Teacher Course in Learn to swim and has achieved Level 1M accreditation.

What he loves about coaching: Seeing results; seeing a swimmer benefit from hint given to them; exchange of ideas between adult swimmers.

What he hates about coaching: Putting out the kickboards.

What makes a good coach: Empathy with those you're dealing with; knowing how they feel and how their body works.
Best memories: Coaching at Mentone Grammar. It was a boom time for swimmers at the school which was almost guaranteed success at the Associated Grammar School Sports.

Other interests: Tennis, Learn to Swim, family activities.
Favorite food: Rice pudding.

Creative ways to move forward

THE sport of swimming moves forward on the shoulders of its creative thinkers. While most ideas are never followed up or accepted by the swimming community, the few innovations come from somewhere. In the interests of stimulating some thought, here are some of the ideas circulating among coaches and officials.

1. Modify the rules of the individual medley to allow the swimmer to complete the strokes in any order. This would introduce tremendous strategic thinking into the racing of the event.

The swimmer would need to calculate their personal fastest order of strokes, as well as the competitive advantages of opponents.

At high levels this would produce fascinating races, and at the entry level, it would introduce personal choice and creativity. Two slightly different thoughts are:

2. Make the swimmer declare their order of strokes before the swim, much as a relay team does; or allow swimmers to change their thinking during the race. The swimmer would need to swim the distance in all four strokes.

3. Add an 800 medley relay to the international program.

4. Combine the dolphin kick

action, shown by backstrokers to be so effective, with a crawl armstroke for maximum propulsion. (The timing is difficult to imagine, but the propulsion is significant).

Over-water recovery of the arms in breaststroke. (This was actually done at a competition). One coach teaching the method said: "It's not advantageous for the good breaststroker, but for the poor breaststroker in the IM, it gets the arms out of the way of the power of the kick."

5. Create a "drag-race style" start for swimming, with red, yellow and green lights imbedded in the starting platforms of each swimmer.

The lights, connected to the computer, would send each swimmer off the blocks in a handicap system that theoretically would allow the swimmers to finish at the same time. (Imagine an 80-year-old woman and Alexandre Popov competing in the same 100m race.) This idea could cause great excitement in local races and perhaps attract some different people to swimming competitions. While it might not improve the world elite swimming standard, it might certainly expand our swimming base.

- By JOHN LEONARD, from the World Swimming Coaches Association newsletter, April

SWIMMING IN COLD WATER

In this abridged article by Diddo Clarke we learn some surprising facts about acclimatising to cold water.

Everything about acclimatising to cold water is surprising.

Swimming In The Low Range.

San Francisco Bay is so cold in the winter that if I dip my wrist in I can't keep it in for more than a minute. When I'm acclimatised I can swim in it for 40 minutes before I feel cold and my body can tolerate it for an hour. Bay water temperatures range from above 5 deg C in January up to 20 deg C in September. During the three years that I swam throughout the winter in the Bay and in a 27 deg C outdoor pool, the Bay was the more comfortable.

At the pool, the primitive back part of my brain that regulates body temperature tried to keep my whole body warm but it couldn't because 27 deg C is lower than body temperature and the air temperature was even lower. My body temperature dropped slightly and I shivered and shook. At the Bay, when I jumped into 10 deg C water, that primitive part of the brain said "*Forget it! There is no way we can keep the whole body warm under these conditions. We aren't even going to try.*" So, it shut off circulation to the skin and the extremities. I became semi-amphibious. My core temperature didn't change for 40 minutes and I didn't feel cold until after I got out.

Acclimatising is so specific that 10 deg C can feel fine for 40 minutes, 11 deg C is balmy, but water in the region of 7 deg C for 20 minutes is such intense pain that I never want to swim in it again.

Swimming In The Medium Range.

My first swim in 14 deg C water was so traumatic I was in shock, physiological panic. I couldn't talk.

I could barely breathe or move. I felt as if this lasted for 10 minutes but I'm sure it was more like one to two minutes. Cold water distorts the perception of time. Then I felt cold for 10 minutes and comfortable for about 10 minutes. The next day I was in shock for half as long cold for half as long and comfortable for twice as long. On day three I swam from the Bay Bridge to the Golden Gate Bridge, six miles with the currents, in 67 minutes. I was uncomfortably cold and my muscles made mini-convulsions on day four I swam back from the Golden Gate Bridge to the

Bay Bridge. The currents are not as favourable in this direction. It took me more than 2 1/2 hours, but felt less cold because I was more acclimatised. On days five and six, I swam in the Bay for half an hour each day without feeling cold at all.

Swimming In The Upper Range.

The first time I swam around Manhattan island, the water was 20 deg C but I wasn't acclimatised so the lower half of my body was numb with cold for the last half of that 9 1/2 hour swim. That was okay with me because everything else hurt. Afterwards, it took about 45 minutes to thaw out. There were no after-effects. Cold is a preservative and hypothermia is the most recoverable serious condition. (We open water swimmers take it seriously and train our boat crews thoroughly.) Before my third Manhattan swim, I didn't have cold water to train in, so I sat in my bathtub, turned on the cold water, added ice cubes, and read a magazine for half an hour a day for nine days before the swim. My third Manhattan was two degrees colder than my first one, but I was comfortable with the temperature the entire time. If it had been colder, I would have felt cold. If it had been warmer, it would have hurt more. When our muscles work hard, cold reduces inflammation, lactic acid, and swelling.

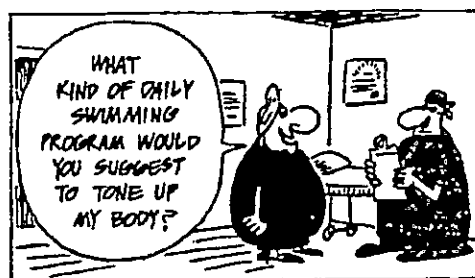
The Reward.

Acclimatising is not for everyone, but many swimmers will be pleasantly surprised at how comfortable they will feel in a cold swim after they have spent time acclimatising to that water for a few days.

*Diddo Clark had broken women's records for swimming around Manhattan Island and between the Golden Gate Bridge and the San Francisco Bay Bridge. She competed in the 1987 US Masters nationals at Stanford, where she swam the last length of her butterfly with a six foot inflated iguana hitching a ride on her back! *Courtesy of Mastercrawl, the New Zealand Masters Swimming Magazine.*

By Brant Parker and Johnny Hart

THE WIZARD OF ID





AUSI MASTERS SWIMMING

IN AUSTRALIA (INC.)

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

GENERAL INFORMATION FOR THE MEDIA

AUSI is an Australia-wide Association of adult swimming clubs, whose members are aged from 20 years up to 100 years and swim regularly to keep fit and have fun. AUSI is also a member of the world-wide Masters Swimming International Organisation.

PLEASE USE OUR NAME CORRECTLY.

AUSI Must always be in upper case, without full stops between each letter, and there is no "E" on the end.

Masters Swimming
or
Masters Swimming in Australia (Inc.)

can be in capitals for each word or all upper case.

We are a body of senior or mature age swimmers and have chosen to use the term "Masters" (and please! - not "Veterans") as is universally adopted. e.g. World Masters Games, World Masters Swimming Championships, Australian Masters Games etc.

AUSI has over 7,000 swimmers. Age concentration generally is between 30 and 50 years and there is about the same number of males and females. There are eight Branches, (one in each State and Territory) and about 200 Clubs which conduct swimming events and competitions. There is a National Swim held each year.

Whilst AUSI maintains records of fastest times and awards medals at competitions, equal importance is placed on everyone who participates regardless of ability. Competition is an important activity as it serves as a monitor to an individuals progress, and is a incentive to swim regularly. However many of our Members do not compete at all.

Clubs conduct other activities, such as Learn to Swim, squad training and aerobic swimming. Of equal importance is the camaraderie established through regular social events.

For further information, please ask for our pamphlet "Swim into Fitness, Friendship and Fun".

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

1995 HAWAII MASTER FESTIVAL

7 to 13 August 1995

including:

- *Pan Pacific Masters Swimming Championships
a 4 day long course meet at University of Hawaii
- *Open Water Swim
- *Beach Events
- *Golf tournament
- *Evening functions
- *Beach Party-Luau

The Festival has been designed to combine a holiday, competition, and fun for swimmers and their companions

There is a limit of 2000 swimmers -- selection is on a first to enter basis-no qualifying times.

As a condition of entry all accommodation will be at nominated hotels and condominiums which will provide a wide range at very competitive prices

No limit on number of companions or family

16 agents have been selected to promote the 1995 Hawaii Masters Festival to Masters swimmers. These agents will have full details in May.

The appointed contact person for Australia is

Mr Tony Handy
Travelworld Brisbane
Fax 07 846 5988

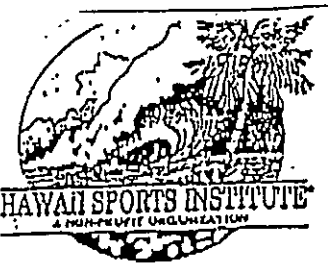
or contact the National AUSSI office for further details.

INCORPORATED CLUBS PLEASE NOTE !!

The Corporate Affairs Office advises that:-

The registered name of the Association must always be used exactly the same way as it is registered and is printed on the Certificate of Incorporation.

This includes any official correspondence from the Association, any publications, advertisements, receipts, etc. The Association name cannot be abbreviated, shortened, nor can the word order be changed. Should the members of the Association wish to amend the registered name of the Association, an application to change the name of the Association must be lodged at this office on the appropriate forms and accompanied by the appropriate fee within one month of the resolution of the committee. The Public Officer is the only person who can sign these forms.



HUMU International Master's Swimming Championships June 1-4, 1995

Quick Facts

FOR WHOM: All registered members of national master's swimming associations, 19 years of age or older and all persons who enjoy watching an exciting swimming meet.

This meet will include Hawaiian entertainment!

WHERE: Kailua Recreation Center Swimming Pool, 21 S. Kainiau Drive, Kailua
and
Duke Kahanamoku Aquatic Complex at University of Hawaii at Manoa in Honolulu
and
Kailua Beach Park, Kailua

(All pools are located on the island of Oahu)

PURPOSE: To provide competitive swim opportunities for master's swimmers from around the world.
To expose swimmers and spectators to our Hawaiian atmosphere.
To benefit local non-profit sports organizations.
To provide the international swimming community an opportunity to enjoy four pleasure filled days in the Aloha State.

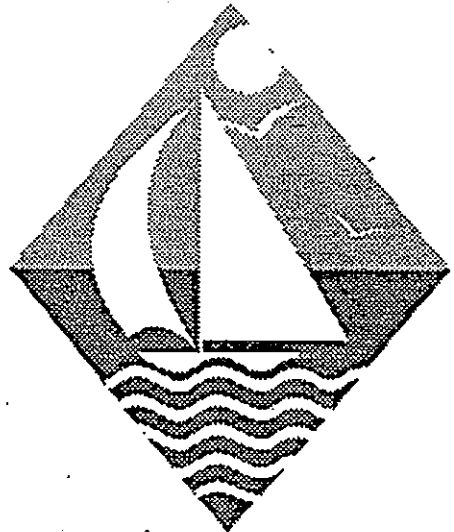
HOTEL ACCOMMODATIONS:

(Host) Waikiki Beachcomber Hotel (800) 622-4646
Aston Hotels (800) 321-2558
Outrigger Hotels (800) 462-6262

ENTRY FEES: Deadline: May 22, 1995
\$5.00 registration fee
\$4.00 per individual event
\$8.00 per relay team

HUMU INTERNATIONAL MASTER'S T-SHIRTS:

Tank Tops - \$10.00
T-shirts - \$12.00
Sweat Shirts - \$15.00



Master's swimming . . . Hawaiian Style!

HUMU INTERNATIONAL MASTER'S SWIMMING CHAMPIONSHIPS HONOLULU, HAWAII

DATES: Thursday, June 1, 1995 through Sunday, June 4, 1995

LOCATION: Duke Kahanamoku Swimming Pool and Kailua Recreation Center
Swimming Pool

SPONSORS: Hawaii Sports Institute
HUMU Masters Swim Team
Aulea Swim Club

EVENTS:

Women Event #

Men Event #

Thursday, June 1, 1995

0	8:00 am	Ocean Swim 1 mile (or 800M)	00
		Kailua Bay - transportation provided	
	10:00 am	Breakfast/Award	
1	5:00 pm	400M Individual Medley (deck seeded)	2
3		400M Freestyle (deck seeded)	4
		(Kailua Recreation Center Pool)	

Friday, June 2, 1995

	12:45 pm	Opening Ceremony (UH Pool)	
5		200M Freestyle Relay (deck seeded)	6
7		200M Back Stroke	8
9		50M Butterfly	10
11		100M Breast Stroke	12
13		100M Freestyle	14

Saturday, June 3, 1995

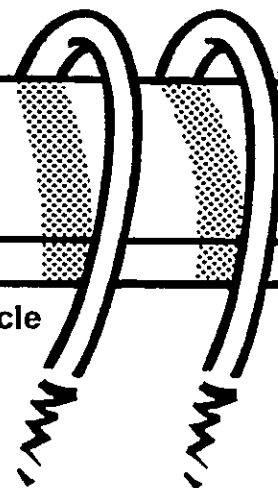
	8:00 am	Starting Time (UH Pool)	
15		200M Medley Relay (deck seeded)	16
17		100M Back Stroke	18
19		50M Breast Stroke	20
21		100M Butterfly	22
23		200M Freestyle	24
25		200M Breast Stroke	26
27		200M Mixed Medley Relay (deck seeded)	28

Sunday, June 4, 1995

	8:00 am	Starting Time (UH Pool)	
29		50M Back Stroke	30
31		200M Butterfly	32
33		200M Individual Medley	34
35		50M Freestyle	36
37		200M Mixed Freestyle Relay (deck seeded)	38



Timely Advice for Masters



Master swimmers often need to be protected from themselves. This article is a summary of a talk given at the State Cup in Australia by Russell Spinks and David Pullen and is by courtesy of "Splash".

When not to swim

- ☐ Any acute infection, be it bacterial or viral, should be a reason not to swim. Very occasionally acute heart problems can arise on exertion, especially from viral infections.
- ☐ Chronic ear infections, particularly infections in the external ear canal, are aggravated by water and hence swimming should be avoided.
- ☐ Swimmers are liable to joint strains, very often in the shoulder joint and these strains need rest.
- ☐ A good basic rule is "if it doesn't hurt it's OK." Swimmers may be able to swim all strokes except butterfly without pain: that is satisfactory.
- ☐ Swimmers should be properly prepared for the events they have entered. Generally swimmers should be able to swim the distance easily in training before entering the event in a meet. So, don't enter in the hope that you might get there: most times you will not.
- ☐ Plan your meet so that an adequate recovery time is available between events. Remember that some events take longer than others. Always have a good warm up.

When to stop

The question of stopping during an event is a very vexed question as many Master swimmers consider it a sign of weakness to stop. My personal view is that "stopping" is a sign of strength. The reason for this is that to continue swimming when all is not well is to put yourself and the people who will look after you, if and when things go wrong, at considerable risk. If in doubt about your ability to continue, STOP!

In any facet of life prevention is better than cure. Proper attention to training, careful selection of events, warming up, diet etc. will lessen the need to stop during an event. It is better to stop than to put yourself at risk. If you have any health problems, these should be assessed and treated before you undertake serious swimming. Above all remember that Masters swimming must be Fun, Fitness and Friendship.

Signs and Symptoms

What are the signs and symptoms that tell you that all is not well?

Disorientation

If when you are swimming, you lose your sense of where you are going, which stroke you should be doing, or develop a feeling of unreality, then you are becoming disoriented. These symptoms are very hard to describe but are very real once you have experienced them. They mean that the brain is not getting enough oxygen.

Being unable to keep off the lane ropes, swallowing water and generally "floundering" are all symptoms of oxygen lack or "hypoxia" and should be treated seriously by swimmers and officials. A swimmer falling behind his usual performance is a warning sign that all is not well. Inhaling even small quantities of water will rapidly and seriously aggravate hypoxia.

Exhaustion

Exhaustion during an event is a danger sign. We have all felt, on many occasions that the finishing wall is the most beautiful sight in the world. This is quite normal after a hard swim. If however the task of getting to the end seems too difficult, then several options are available. A short rest at the pool's end may be enough to allow you to complete the event. A change of stroke during a freestyle race may be all that is required.

Cramps

Cramps are a sign of inadequate oxygen supply to the affected muscles. Severe cramping is an absolute indication to stop. Minor cramping which is relieved by rest, change of stroke or by gentle stretching is an indication to be careful and if recurring, an indication to stop.

Chest pain

Chest pain is an absolute indication to stop. There are no exceptions.

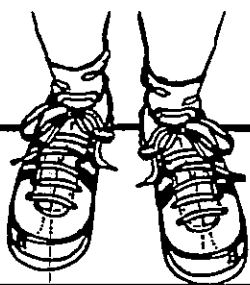
Breathlessness

Again this is an indication to stop. Many asthmatics swim without any problems when properly treated. However, any increase in breathlessness or any sudden onset of breathlessness is an absolute indication to stop.

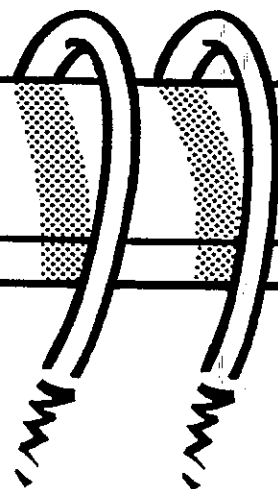


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A Good Front End



BY CHIP ZEMPEL

"Different strokes for different folks." The expression holds a special significance for swimmers trying to improve their stroke technique. Since each individual's style and technique is different, there can be almost as many stroke problems as there are swimmers.

Yet for the sake of discussion, most coaches divide the beginning of the stroke into two phases: the *entry*, when the hand and arm are entering the water in preparation for the power phases, and the *catch*, when the hand makes a transition from preparation to propulsion. Coaches often say a swimmer with a smooth, efficient entry and strong catch has a "good front end."

STARTING AT ENTRY LEVEL

Let's see what we can do to improve your front end.

The entry does more than simply get your hand in position for the next stroke; it is the foundation for a streamlined body position. A bad entry can cause a great deal of drag and wasted energy.

Swim a few lengths of free-style, holding your breath as much as possible, and watch your hands as they come down below the surface. (Raise your head so you can see them, if necessary.)

BUBBLE TROUBLE

Watch the bubbles following each hand as it enters the water. Do you see a tiny stream of bub-

bles, or a great cloud? Does one hand leave more bubbles than the other? Air bubbles in the water are like gravel on a road — they disrupt the flow of water around your hands and arms, causing you to lose traction.

Also note where the bubbles hit you as you swim up through them. Do they strike you in the middle of the forehead, glance past the side of your head, or hit somewhere around your neck or shoulder? Do they hit the same place on both sides, or does one hand enter closer to your centerline than the other? Your arm should enter in front of your shoulder so the bubbles should just miss your ear. If they come in closer to your centerline you may be swinging your hips out to the side, causing extra drag and impinging on the muscles and tendons in your shoulder. A wider entry can cause the entire arm to drag forward through the water.

Many swimmers straighten their arms before their hands enter the water. This fatigues the back and shoulder muscles quickly, and the arm crashes down through the surface, creating excess drag and trapping air.

PICTURE-PERFECT MOVES

To disturb the water as little as possible, your fingertips should enter first, followed by your hand, forearm and elbow all through the same hole. Picture yourself putting your arm into a coatsleeve — everything goes

• ONE CUP TOO MANY?

Even one cup of coffee each morning can get you hooked on caffeine. Researchers at Johns Hopkins University School of Medicine found that some subjects who consumed only 100 mg of caffeine daily experienced withdrawal symptoms such as headaches, fatigue or grumpiness if they missed their caffeine fix. How much is 100 mg? The amount found in one cup of strong coffee or a couple of colas, says *Self* magazine.

Congratulations to the following coaches who have completed all the requirements for their Level 1M Accreditation.

Margaret Wilby NSW

Lorraine Petroff Qld

Louise Johns NT

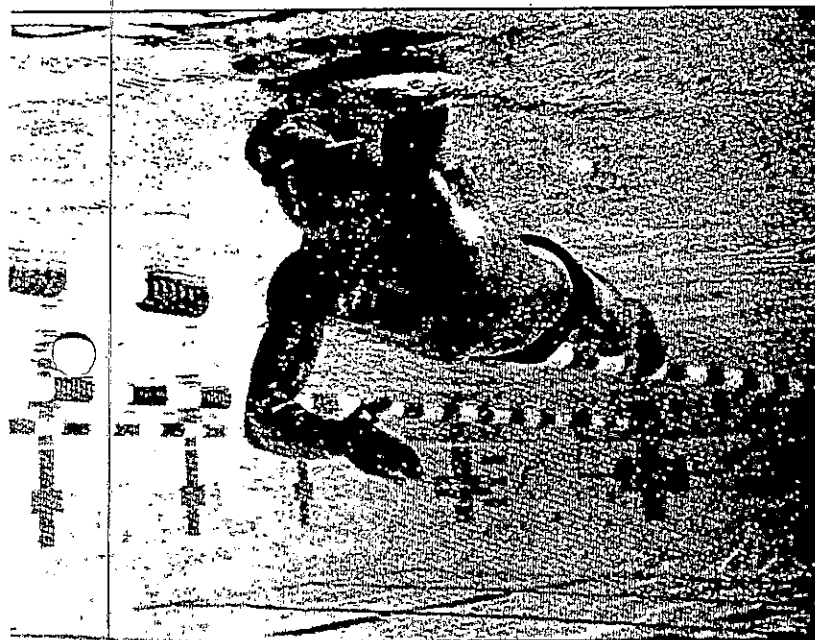
Susan Watt NT

Deadline for the November issue is Nov 1st. Please send to the address listed on the back page.

AUSSI Mission Statement is "To encourage adults to swim regularly in order to promote general fitness and improve their general health".

As ye swim in practice, so shall ye swim in meets.

Biting off more than you can chew is better than going hungry.



"Whatever else you learn in school, I would like you to master at least two 'life sports', those you can play long after you are out of school. Sports are wonderful; they can bring you comfort and pleasure for the rest of your life. Sports can teach you so much about yourself, your emotions and character, how to be resolute in moments of crisis and how to fight back from the brink of defeat. In this respect, the lessons of sports cannot be duplicated easily; you quickly discover your limits but you can also build self-confidence and a positive sense of yourself. Never think of yourself as being above sports."

- Former Wimbledon champion, American Arthur Ashe, in a final letter to his daughter, Camera. (Reprinted in *The Canberra Times*, June 19, 1993)

From Sport Report

down into the same tube.

To slip into that tube, your elbow has to be bent and held high. Another visualization you can try is the "elbow crane." As you finish your stroke, relax your arm and imagine a crane lifting your elbow. The crane swings your arm forward until it's directly in front of your shoulder, and then drops it, fingers first, into the coatsleeve.

As your hand slips into the water, keep your middle finger, hand, wrist and forearm in line, but rotate your wrist and forearm around this axis so your palm is turned out at a 45 degree angle with the thumb side down. This keeps your hand from trapping bubbles below it, and helps you maintain a high elbow.

Now your arm is moving forward through the water. Any additional effort at this point only increases the resistance caused by this motion. Don't *force* your arm into the coatsleeve. Relax and let the arm's own weight pull it down. Great swimmers look so relaxed because they *are* relaxed! If your back and shoulder muscles are contracted through the

entire arm cycle, overcontrolling your arm through the recovery and entry, your blood vessels will remain constricted. Relaxing when you don't need to be working allows oxygen-laden blood to flow back into the muscles.

Asking you to line everything up just right and hit this spot at that angle, and to be relaxed at the same time may sound as paradoxical as practicing to be spontaneous, but dancers and musicians and Zen archers do it all the time. Why shouldn't swimmers? Stick with it until it becomes second nature.

Don't start pulling as soon as your hand enters the water. Continue pressing forward and down. Keep your elbow high so that your arm arches downward toward your hand. Imagine reaching over a waterlogged, sunken barrel in front of you. Watch your bubbles and make sure you're still entering in front of your shoulder, not your head.

WATCH THAT CATCH

Now we're coming to the *catch* phase, when you begin to apply pressure

against the water. Many swimmers make a critical mistake at this point, letting their arms rotate downward and dropping their elbows. If this happens, you'll be pulling with your palm only. If, however, you keep your elbow high, you'll be pulling with your entire forearm.

Don't extend your arm so far that it's completely straight. In his book, *Swimming into the 21st Century*, Cecil M. Colwin calls the catch the "trap" phase. He suggests imagining you're trying to encircle as much water with your hand and arm as you can before you begin the pull.

If your arm has been pressing forward and down from the entry, your hand might be deeper than you're accustomed to when you begin to apply pressure. Most highly skilled swimmers have what coaches call a "deep catch" — about 18 to 24 inches below the surface. Swimmers whose catches are shallower

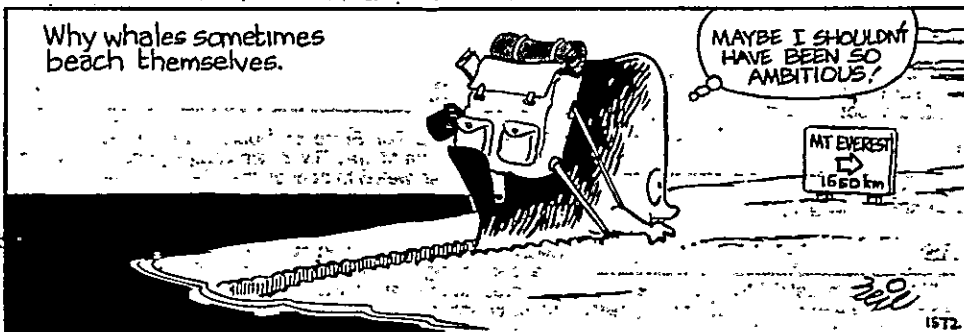
HEY COACH

BY STEPHEN BENTLEY



HIGH TIDE

Why whales sometimes beach themselves.



W i s e W o r d s

"Structural changes are linked to technological innovation. Labour-intensive industrial society is changing into an automated information society."

Robert Burns, *Managing People In Changing Times*.

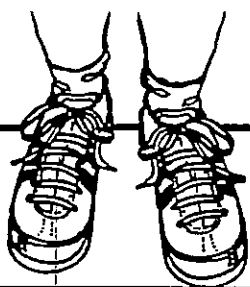
"To strengthen its authority structure, the organisation develops an ideology which provides a set of norms and values. A norm is the approved and expected behaviour which a social system determines as appropriate to a particular position. A statement of expected behaviour is only a norm if any departure of actual behaviour from that prescribed is punished in some way."

A. K. Collins, *The Dynamics Of Organisation*.

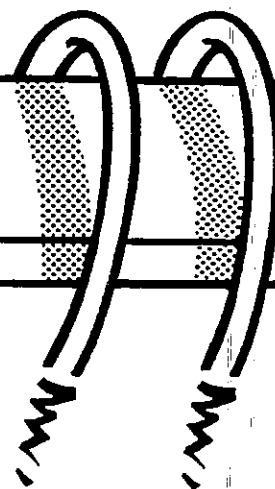
"BE CONSISTENTLY PERSISTENT"

Dick Hannula

Anyone who thinks the sky is the limit has limited imagination.



Well Intended



Criticism

by Cecil Colwin



The very nature of a coach's job is to analyze and evaluate all areas of swimming performance. Giving expert feedback can mean the difference

between a swimmer's success or failure. When coaches offer well intended criticism, they tread a precarious tight rope. On the one hand, they want to help the swimmer build a positive self image. On the other hand, they need to be careful that the critiques they offer do not produce an undesirable reaction.

Even swimmers who outwardly appear tough and self-confident may find criticism hard to handle. People automatically tend to regard criticism as something unfavorable and negative. This is particularly true of criticism offered without the knowledge and background that qualifies a person to criticize, even though the motive may be constructive. Wise coaches understand that young swimmers need sensitive and tactful handling, especially when commenting on their performance.

An important coaching task is to keep swimmers relatively free of unnecessary emotional stress. This is easier said than done because many swimmers are constantly subjected to a variety of stresses in all phases of their lives, at home, school, and at the swimming club. They consider all adults to be constantly "on their backs," criticizing, and placing diverse demands upon them. As a result, youngsters often become keyed up, stressed and hyper-sensitive.

It is not unnatural for people to view criticism as personal and threatening. Because people usually like to hear views consistent with their own self-appraisals, it is natural for them to resist contrary ideas. Patient coaching is required to convince a swimmer that it is possible to improve dramatically simply by heeding to the coach's comments.

It is essential that coaches teach swimmers to view critical feedback in a positive light to the extent that there is no doubt as to a coach's intention. They should understand that criticism presented as an evaluation of performance can be of enormous potential benefit.

Swimmers should learn that criticism does not imply disapproval or that something must be wrong with them. Once swimmers believe that the coach will offer only valid criticism intended for the swimmer's improvement, an important new stage in the coach-swimmer rapport will have been reached.

A coach's critical comments on a swimmer's performance should always

be fair and tempered with praise and encouragement. The manner in which a coach gives critical feedback will affect the desired outcome. If the swimmer feels ridiculed or that the coach is being hostile, impatient or short-tempered, the swimmer's reaction

will tend to be negative. However, when criticism is given in such a way that there can be no doubt about the coach's warmth and sincerity, the swimmer's response will be positive.

When a coach's comments are pre-

Wise coaches understand that young swimmers need sensitive and tactful handling.

THE FAR SIDE

By GARY LARSON



"This is it, son — my old chompin' grounds. ...
Gosh, the memories."

Don't try to duplicate past performances;
just do the best you can today.

sented in a patient and tolerant fashion, the swimmer will develop a sense of security as well as increased faith in the coach's ability. It is very important for any youngster on a swimming team to feel the coach's approval, acceptance and friendship. When a coach provides critical feedback in an expert and constructive way, a swimmer's self-image is heightened by the knowledge that the coach cares enough to correct and improve a particular aspect of performance. Under such circumstances, and, even though performance is being criticized, the swimmer can have no doubt that the coach's respect has been earned.

I have mentioned that providing criticism is a part of a coach's professional function. We should not forget that the very nature of the profession entails that the coach is often at the receiving end of criticism. (This criticism, however, is not always couched in the same careful

terms!) It is appropriate for both coach and swimmers to understand the different types of criticism that we encounter: 1) valid criticism, or justified criticism; 2) invalid, or unjustified criticism, and; 3) vague criticism, or criticism that is simply a difference of opinion. The three main types of criticism are self-explana-

The most important point to understand is that for criticism to be constructive it should be genuinely helpful and should be stated in clear specific terms.

tory. The important point to understand is that, for criticism to be constructive, it should be genuinely helpful, and should be stated in clear, specific terms.

In asking ourselves whether criticism is valid or invalid, we should ask whether we hear the same criticism from more than one person? Do the critics have expert knowledge? Are the critics impartial and unbiased?

There are some coaches who tend to neglect providing feedback, either positive or negative. This is unfortunate because research suggests that feedback is a strong motivating factor in coaching athletes. Careful, well-thought-out criticism takes time. In giving criticism, some coaches tend to criticize before they have effectively explained their expectations; for example, the desired stroke mechanics or the goals of the training program, etc.

Often, the initial description is either too brief or inadequate. In the first instance, it is necessary to set realistic goals and expectations. If coaches fail to outline the expected behaviors that should result from their teaching, they will not have built the foundation on which to base subsequent evaluation or criticism. In the long run, good criticism saves time. Criticism, if thoughtfully presented, encourage both coach and swimmer to learn and grow. §

Continued from page 13

usually waste energy because their hands and arms aren't positioned correctly to apply force effectively. In other words, don't rush the catch.

Try to feel the pressure beginning at your fingertips, traveling up your fingers and palm, and continuing up the inside of your forearm as the pressure increases. In the June 1993 issue of *Fitness Swimmer*, Terry Laughlin suggested several tricks for increasing the sensitivity of your hands. He mentioned rubbing them with a loofah sponge (or rubbing them on any rough surface), swimming with fists, hand paddles or while holding tennis balls.

Now attempt to carry that same sensitivity up into your forearms. They can be sensitized by rough surfaces, too. Or you can try wrapping your forearms with fabric, inserting them into the lower leg portions of old, discarded stockings or wearing a long-sleeved sweat shirt. Swim with your forearms covered for several lengths, and when you take the wrapping off, they should feel much more sensitive.

As we begin applying pressure against the water, we're moving into the power phases of the stroke. We'll take a look at these in the next issue. In the meantime, keep working on that front end!

Chip Zempel is coach of the Rollingwood Masters in Fair Oaks, California, and co-author of Swim Swim: A Complete Handbook for Fitness Swimmers (Contemporary Press).

AUSSI RESOURCE CENTER VIDEOS FOR HIRE

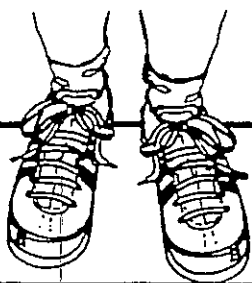
- **Media Matters** : This is hired to you as a kit and comprises a comprehensive written guide plus video. "Media Matters" is designed for individuals and voluntary groups involved in

promoting fitness and healthy lifestyles in the community and can be used to publicise and attract membership. Hence it is ideal for AUSSI clubs.

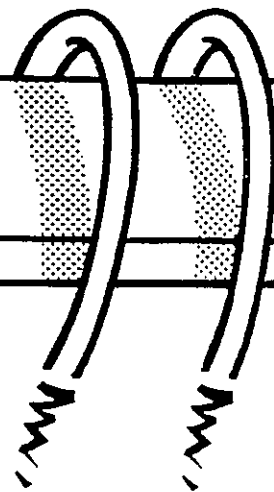
- **Strength Training** : This 30 minute video provides a comprehensive update on the methods and principles of strength training, ie
Body Building
Isometrics
Maximal Weights
Eccentric exercises
Ideal for swimmers and coaches interested the principles of weight training.
- **Visualisation** : Focusing 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.

These skills can also carry over into the work place and day to day living. A very handy reference for those wanting to improve their performance.

- **Exercise Beats Arthritis** : A unique series of exercise set to music. For everyone with arthritis who wants to increase general fitness, keep their joints mobile and heighten their sense of well-being.



Training With Fins



How the Russians used flippers, mono-flippers and snorkels to improve their swimming.

by Oleg Soloviev

Reprinted from Swimming Technique May - July 1993

Preface: My name is Oleg Soloviev and I came to America from Russia three years ago. I used to work as head coach at the Olympic Training Center in Novosibirsk (Capital of Siberia). In a 50 meter pool with two other head coaches, we had classes of beginners (6-7 years old) who later became capable swimmers selected to a special high school. Our center had a sauna, gym, medical rehabilitation center with several different sports doctors in fields of physiotherapy, biochemistry, psychotherapy, etc. The center also had several swimmers on the national team including 1988 Olympic Gold Medalist Igor Poliansky.

Fin swimming was a part of the whole swimming program and we did a lot of research in this area. All of our swimmers used power fins, mono-fins and snorkels to help build their technique. A lot of the research we did is now being used in other centers (such as Volgograd where Popov and Sadovyi train). I am now working at the Staten Island Aquatics Corporation where I coach high school aged kids at a private pool.

It is possible to say that swimming in flippers, mono-flippers and a snorkel only helps to improve the technique of swimming by helping a swimmer find a position with the least hydrodynamic resistance for his own style of swimming.

It is necessary to improve the technique of the legs, to increase the amplitude of a stroke with the legs, to improve the "feeling of the wave," to increase, slightly, the power of the breathing system, to improve glide (making it a little longer after the turn with the least hydrodynamic resistance), to execute the start better and further, and to improve the quality of the anaerobic process. If we improve everything, even a little bit, the overall effect will be great and it is possible to make a new step in swimming.

Training With Fins

While swimming in flippers, a stroke is executed at higher speed as the swimmer tries to move himself forward, having already a relatively high speed due to the flippers. The use of the flippers and mono-flippers increases speed and makes a swimmer hide all the "sticking out" parts of the body, looking for speed impending elements in technique through motion dynamics. Runners started doing this a long time ago by running downhill to find out what interferes with their run.

Today, if a swimmer can impart this speed with the help of flippers or mono-flippers, and increases the speed by 15-30 percent, it would be enough for a swim-

mer (freestyle, backstroke, fly) to automatically improve all the minute drawbacks in his technique without losing the functional degree of fitness. The methods of training in flippers are the same as that in regular swimming, only the planning of work and rest intervals is lightly more intensive, approximately 15-30 percent higher. Consequently, the volume of swimming is 15-30 percent higher.

According to the laws of hydrodynamics the resistance in the water grows with the growth of speed in cubic dependence (a two percent increase leads to an eight percent increase of hydrodynamic resistance).

This law means that with the small increase of speed the resistance grows significantly, and the swimmer begins to feel the parts which create this resistance; the fact that the flow of water strengthens the "bad" resisting points becomes more evident while swimming in flippers.

Short flippers do not create the necessary power for developing a speed which permits effectively discerning "deficiencies" in the hydrodynamics of the technique (which, by the way, also causes additional resistance). So the swimmer does not feel what impedes him, what hinders him. That is why it is necessary to use powerful fiberglass flippers and mono-flippers when training for speed.

Another very important feature of powerful flippers is that they increase (very quickly) the angle of foot mobility because they impart considerable pressure on the outer surface of the foot. Tests done on speed-swimmers in powerful flippers



Please address all your correspondence regarding coaching matters to either your Branch Coaching Director or to the National Director of Coaching, Kay Cox. Her address is c/ 8 Syree Court Marmion WA 6020.

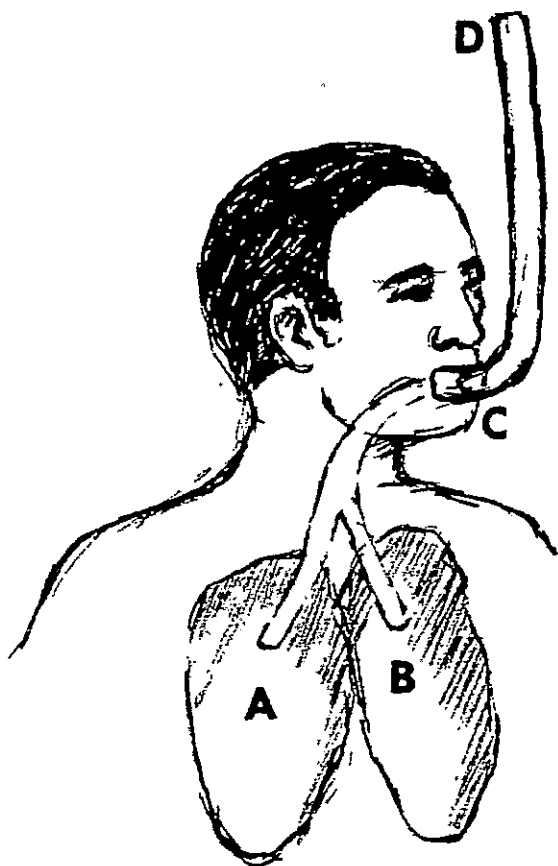


Illustration 2

showed that their feet are 20-35 percent more mobile than those of regular swimmers.

A swimmer should try to learn to make normal kicks up and down (it is possible to do this in flippers) enabling the foot to exercise the kick in both directions "by memory" after you take them off.

It is very important that in the process of swimming in the mono-flippers and bi-flippers there is a greater muscle load on back muscles, legs, and abdominal muscles. Swimming in flippers leads to the even development and strengthening of that group of muscles. The advantages of training in water over the training in the gym is that we train all the muscles simultaneously and in proper proportion. While in the gym, we do it separately and the power distribution is not known because it is difficult to determine interaction and mutual influence of muscles for the gym workout. The muscles have their own gravity which disappears in water and the ratio of additional dynamic loads and physical efforts is exact without interference from the body weight and muscle gravity.

The last object which helps swimmers to improve their technique, or more precisely hydrodynamic resistance, is a mono-flipper. Its main quality is that it helps swimmers keep their feet close to each other. It is important to execute strokes in dolphin style with two legs simultaneously, synchronously up and down. If this rule is not followed then the stroke is less efficient.

While swimming in the mono-flipper the feet are fixed, which stops the possibility of opening them or making non-synchronous movements up or down. Besides, when feet are close to each other, then their pressure on the water is higher than when they are open.

Increasing Lung Capacity By Training With A Snorkel

How is it possible to increase the efficiency and speed of air exchange, i.e. the efficiency of the lungs function?

When a sportsman inhales or exhales, the air moves from the mouth along the bronchi to the lungs. What impedes the air flow?

There is one constituent which can be called aerodynamic resistance on the border of two media of surfaces: the surface of bronchi and the air moving along them from points A and B to the point C (Illustration 2).

The volume of this resistance varies depending on the velocity of the air stream; or in other words, on the volume of air getting through in the unit of time (the frequency of breath). Lungs do the work of overcoming the resistance by sucking in and pushing the air out. How can we make lungs work with more power? Do we need to breathe more frequently? Or inhale deeper?

To increase this surface, and thus to increase the resistance we need to lengthen AB-C system by the CD size (that is additional snorkel). For pushing through the air in the system AB-CD all the muscles engaged in breathing will carry additional load.

The research of the swimmers' capacity of lungs who use the breathing tube (CD) shows that those who regularly use snorkels have lung capacity 15-20 percent higher than the ones who do not use them. It is the result of the fact that the lungs work more intensely with the snorkel and become more powerful.

When breathing through the snorkel, the volume of the "dead air" (the air constantly remaining in the system) is considerably higher (100-130 ml) than when breathing without one. That is why anaerobic processes going in the energy metabolism are higher for swimming with the snorkel. This is also an additional load on the energy creating system, oxidation and reduction.

That means that the tube raises the efficiency of anaerobic training, or more precisely anaerobic loads, even when the training goes on long distances.

Training With Snorkels To Teach Technique

While swimming with a snorkel a swimmer does not turn his head for breathing, that is why he can observe his strokes (and the trajectory of them—freestyle, butterfly). Thus, a swimmer can correct his stroke and improve it.

If one swims with a snorkel for a long time, then a mechanical memory of making a proper stroke remains. Then without the snorkel, a swimmer exercises the strokes of the same quality.

The next important point which helps to improve technique by means of a snorkel is that a swimmer keeps a stable horizontal position of the chest and shoulders, which creates additional supportive pressure from the water, which he feels physically. Thus, the snorkel can teach a swimmer to glide over the water and adjust his stroke to the maximum efficiency.

continued from page 5

- To spread the Olympic principles throughout the world, thereby creating international goodwill and
- To bring together the athletes of the world in the great four year sports festival - the Olympic Games



Many of the Unified Team swimmers did some training with flippers and snorkels to improve technique.

Training With Snorkels To Teach Streamlining

The swimming with the help of legs only, with the snorkel held between the hands and the chin pressed to the chest, teaches a swimmer to stretch and "fold" into the line of the least hydrodynamic resistance. A swimmer feels the flow of water around him. This feeling is reached through training. When a swimmer starts to swim without a snorkel at a speed close to that with the flippers he automatically "folds" in the best streamlined position.

After pushing off from the wall and executing a turn, a swimmer has a higher speed if he folds in a "stream" position. He would glide further without losing speed, giving a gain of approximately 0.2—0.25 seconds at every turn (this is 0.75 seconds for 200 meters). Certainly it is possible to try to explain the position of the hands and head when pushing off from the wall, but it is better still to learn to perform it automatically, using a snorkel as training equipment.

Training With Snorkels To Teach Entries

One more advantage of the snorkel is its capacity in helping a swimmer to maintain a proper position for the arms and head upon entering the water. If you start with a snorkel and raise your head too high, than the impact of water against the snorkel gives the swimmer a toothache; the snorkel turns sideward if his head was turned a bit.

A snorkel held between the hands will not do any harm at the jump from the start. If you keep a proper pressed position of a chin and hold the end of the tube between arms, palm on the palm, then the impact of the water against the snorkel is not felt, which leads us to the conclusion that the snorkel is a proper tool for start training with the least hydrodynamic resistance. It helps to gain up to 20 percent (0.1-0.15 seconds) in comparison with a swimmer who did not use a snorkel as training equipment.

I offer this experience and knowledge that I have gained from coaching in Russia. §

If your main reason for swimming (or doing any type of exercise) is to lose weight, it's only common sense that you should try to cut down on the calories you eat. And make sure you swim fast. Many overweight people don't swim fast enough or long enough to lose weight.

Swimming surprises

UC Berkeley Wellness Letter, December 1993

Swimming is often praised as an ideal exercise—and for good reason. It makes the heart and lungs work more efficiently, enhances muscle strength and endurance, improves flexibility, and helps reduce stress. Yet it's easy on the joints (this has its negative side, though—since swimming isn't a weight-bearing activity, it strengthens bones less than, say, walking or weight lifting). Swimming uses more muscles than nearly any other exercise, except perhaps cross-country skiing. But is swimming a good way to burn calories—and thus to lose weight?

Yes, to the first part of this question, according to Howard Wainer, a statistician and swimmer, who recently calculated that champion swimmers burn about 25% more calories than champion runners in a given time. In addition, strenuous swimming burns, on average, nearly four times as many calories as strenuously running the same distance, largely because it takes much longer to swim a given distance than to run it. (Champion male runners, Wainer calculated, can cover 3.75 times as much ground as champion swimmers in the same time; for women the ratio is 3.5.) His study was published in *Chance*, the journal of the American Statistical Association.

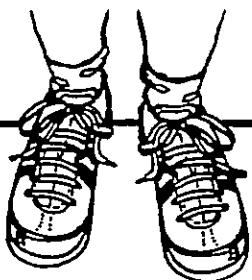
Swimming's high energy expenditure might be explained by several factors. Swimmers expend lots of energy because they have to overcome the "drag forces" that impede high-speed movement through water. They must also use their arms and legs. And they have to expend some energy simply to stay afloat. Women may be slightly more efficient swimmers than men (as Wainer's ratios suggest) because women tend to be shorter and to have more body fat, which makes them more buoyant.

And if you aren't a champion swimmer?

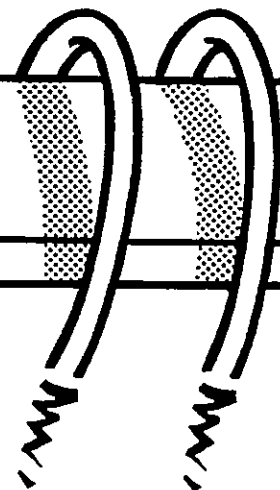
Wainer's calculations were based on elite athletes and on world record times in swimming and track. He did not take into consideration many variables that affect swimmers—such as a swimmer's initial weight, body fat, muscularity, level of exertion, overall fitness level, and stroke, as well as the water temperature—and he didn't discuss the issue of weight loss.

His findings were somewhat surprising, since it's well known that in the real world, recreational swimmers tend to lose *less* weight than would be expected from other types of aerobic activity. For instance, a 1988 study at the University of California at Irvine that asked overweight women to walk briskly, ride a stationary bicycle, or swim daily found that while the cyclists and walkers lost weight, the swimmers gained a little (however, all three groups showed cardiovascular improvements). But the subjects were allowed to eat as much as they wanted and to exercise at whatever intensity they wished. The swimmers might have lost weight if they had tried to limit what they ate, or if they had made the effort to swim strenuously. Other studies have had inconsistent results—some have found that swimmers do lose weight (and body fat), some that they gain a few pounds, and some that the swimmers have no change in weight. And often, if swimmers gain weight, it's lean body mass (muscle), not fat.

Why is swimming different from other forms of aerobic exercise? After all, done vigorously, it burns about 500 to 650 calories per hour. Scientists speculate that cold water removes much more heat from the body than air at the same temperature does, and that this energy loss, occurring day after day, may stimulate appetite to keep the body warm. Also, regular exposure to cold water may encourage the body to maintain or increase the fat stores under the skin that serve as insulation. Swimming is one sport in which body fat offers benefits: studies have found that extra fat gives a swimmer a better chance of completing long-distance races in cold water.



The Importance of the DOLPHIN KICK



Don't just kick, un-du-late," Olympic champion and world record-holder Mel Stewart directed his audience of age-group swimmers at the Westport, Connecticut YMCA. As he belted out instructions, he performed what could be called "The Funky Undulation," a move never seen on *Soul Train*. In Honolulu, a hula dancer might perform a similar movement with her hips, but you wouldn't think "the butterfly kick." Watching Stewart gyrate you know it's the dryland version. Use your imagination. Remove your grass skirt, replace it with a "paper" racing suit, and-bingo!-you're doing the butterfly kick, more commonly referred to as the "dolphin" kick.

Fitness swimmers dream of swimming the butterfly stroke in the smooth and relaxed fashion of an Olympic athlete. Like a snappy flip-turn, it's something that turns heads at the pool when done correctly. When you see the dolphin-like movement, you yearn to imitate the finesse of world-class swimmers.

LEG AND TOE ACTION

Contrary to what you might think, half of the power and thrust of the butterfly comes from the legs—a much higher per-

centage than for the other three competitive racing strokes. Performed correctly, the dolphin kick almost guarantees success in learning the stroke. The timing of the arms is all that remains.

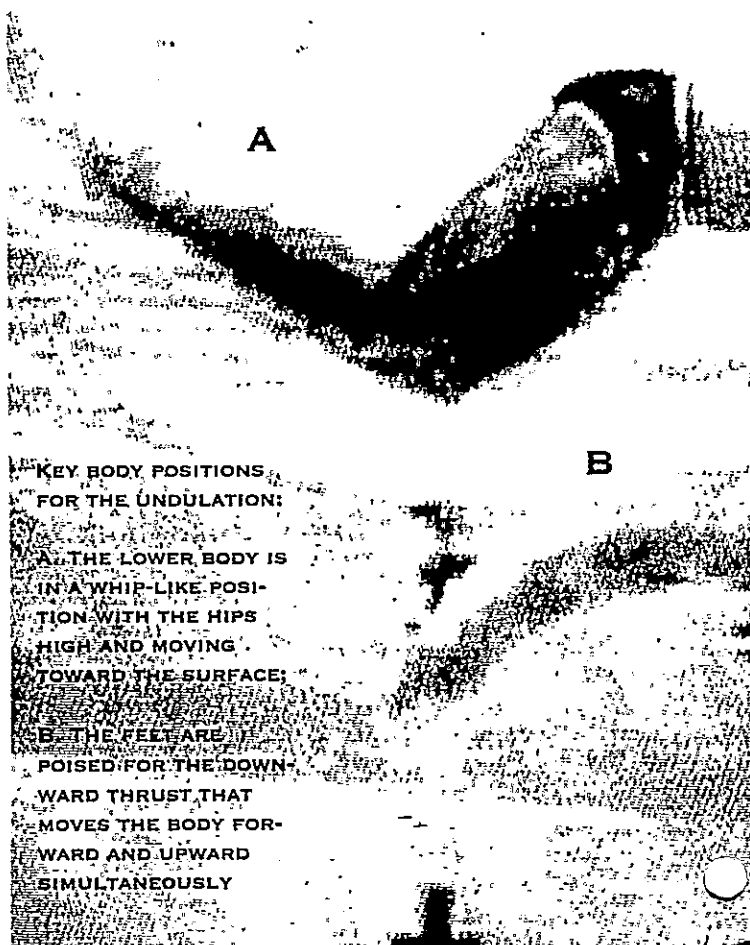
Before explaining the dolphin kick, let me stress what I think is the single most important element to remember: Keep your toes extended at the end of your kick. Based on 25 years of watching other swimmers, I'd say 95 percent of them flex their feet at the last moment of the kick, rather than extending the toes toward the surface. This is crucial because flexing your foot drives your feet and legs downward. It's like flying a jet with the flaps down in mid-flight. The flaps (flexed feet) create resistance. You are literally dragging your feet and, therefore, the lower half of your body, through the water.

FEET FUNDAMENTALS

Keeping your body high in the water is essential to getting the right foot flex or extension. Until it comes naturally, you must make a conscious effort to "feel" where your toes finish at the end of each kick. One way to improve ankle flexibility is to try this pre-pool warmup exercise: Sit on your ankles with your feet pointed behind you. Lean backward, keeping your back straight, for about one minute. The further you can go, the more flexible you'll become.

Alternatively, you can watch a video of any world-class butterflyer or freestyler

**It's not in the foot,
it's in the motion**



KEY BODY POSITIONS FOR THE UNDULATION:

A. THE LOWER BODY IS IN A WHIP-LIKE POSITION WITH THE HIPS HIGH AND MOVING TOWARD THE SURFACE.

B. THE FEET ARE POISED FOR THE DOWNWARD THRUST THAT MOVES THE BODY FORWARD AND UPWARD SIMULTANEOUSLY.

and freeze-frame the downward movement of the foot. Notice that you will never see a flexed foot.

Pablo Morales and Stewart hold the world records for the 100- and 200-meter fly, respectively, and both won gold medals at the 1992 Barcelona Olympics. Stewart says kicking is "the key to my stroke, to forward thrust and endurance," while Morales states that "I've always thought that kicking should be the main set. I've trained that way since I was little." Bearing their comments in mind, you can learn the butterfly stroke correctly by

BY JOSEPH COPLAN



learning the kick and the attendant undulating movement first.

UP IN ARMS

"The arms are 'set up' by the kick," explains Stewart. This means your kick gets your body in a high, comfortable position in the water so your arms don't do the lion's share of the work. If you undulate correctly, you'll get your hips closer to the surface of the water. This makes it easier to recover your arms over the surface of the water, stroke after stroke. If you ride low in the water, you'll have to use your

shoulders more in order to recover your arms over the water's surface. Your stroke will deteriorate rapidly as your hips "sink." Lactic acid, the byproduct of overtaxing the muscles, floods into your shoulders and arm muscles, rendering them almost useless. During competitions, this is commonly referred to as the "grand piano" tied to the swimmer's back.

Your quadriceps (thigh muscles) are the largest muscles in the body, and consequently, require the most oxygen. They play an important role in the development of the kick and, of course, the stroke.

Undulation begins just below the chest area, even though, in the water, it appears to come from the hips. The energy and thrust move through the abdominals and into the quadriceps. Developing the quadriceps with weight training will add more fuel to your fire. Next time you watch Olympic or world-class butterflyers on TV, focus on their quadriceps, which are similar to those of world-class cyclists.

WINNING ADVICE

Morales, Stewart and Crissy Ahmann-Leighton, another Olympic medal winner in the butterfly, all recommend working your legs with *and* without a kickboard. When you use a kickboard, you can isolate the quadriceps, whether you kick freestyle or fly. They will "burn" when you work hard. That's the lactic acid building up and it means your quadriceps are getting stronger, producing more oxygen and making you more aerobically fit.

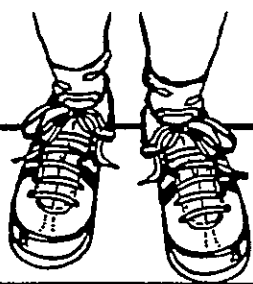
Without the kickboard, stretch out your arms, place your hands on top of one another and practice the butterfly undulation. Morales likes to work this movement on his back, "in a streamlined position, working the 'upbeat' as opposed to the 'downbeat' which gets worked on a kickboard." The rolling, whip-like motion moves from your chest down to your feet and snaps off from the toes at the end.

When you kick without using a board, you'll feel your hips rising and riding high during the stroke. You should breathe after the second, more powerful dolphin kick.

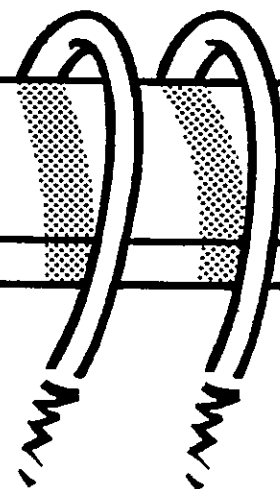
The butterfly kick works the body "center." The stroke itself begins there, and rolls down the body. Morales says the key to a high body position is "the lever point where your weight is in front of you and limits stroke decay." The butterfly kick strengthens the center and, unlike the other strokes, can be a way to trim your waistline and combat adult back problems. This may be especially important for fitness swimmers who may have little interest in competing but a great deal of interest in maintaining their health through fitness.

Joseph Coplan has been ranked internationally in butterfly in Masters swimming for many of the past 20 years.

COURTESY OF DEJA VUE VIDEO. FROM SWIMMING FOR FITNESS WITH DONNA DE VARGA.



Butterfly ▼



Reprinted with permission from Swimming Technique Aug-Oct 1993

Stroke Technique—Key Points From Kathy McKee

1. Two kicks for every pull—kick the hands in the water.—kick the hands out of the water.
2. Breathing pattern—usually every other stroke
3. When breathing—lift head forward, push chin forward
4. Hands enter directly in front of shoulders
5. Arm streamlined on entry—ride out the stroke
6. Keyhole pull—create a triangle or diamond effect
7. Accelerate through end of stroke
8. Relaxed almost—straight arm recovery
9. Head comes out before arms come out and head goes in before arms go in



Stroke Rate/Breathing/Timing:

Bill Thompson

Timing drill. Dolphin arms at side, emphasize constant head motion coordinated with breathing. Timing: use kick board with one hand, no stroke. Then, add stroke later.

Dan Patton

Four strokes drill. Timing falls off when swimmers tire. So we do a four-stroke fly. We stress four great strokes, then some type of drill, then build up to 6, 8, 10 and full length.

Kathy McKee

One arm concentrating on the proper timing of the kick.

Tom Himes

Breathing drill. Swim 100s breathing every other stroke on first lap, every third stroke on second and third lap, every other on fourth lap. Do not allow variations with the pattern during the drill.

Arm Recovery Drills:

Dan Patton

Thumb drag. Have the swimmers recover with almost straight arms and the thumb pointed down at the water. The dragging, the arm is a little low, but the swimmers will get the idea.

Kathy McKee

One arm drill. Breathing to the side, concentrate on straight arm recovery.

Sherwood Watts

Single arm over finish drill, combination: two left, two right, two whole swimming.

Tom Himes

1. Two left arm fly pulls.
2. Two full fly strokes.
3. Two right arm fly pulls.
4. Repeat 1, 2, 3. No breathing on the two full strokes of fly.

Underwater Pulling Drills:—

Kathy McKee

Triple kick—swimmer breathes every stroke working the kick and concentrating on the pull pattern.

Surface drill—swimmer works on the pull pattern by sculling and working the press through, then recovering underwater. (Only breathe during pull.)

Dan Patton

Three front-three back drill—swimmers go streamline then do three half pulls in front, then three finishes in back, then three whole strokes.

Sherwood Watts

Press-ups drill. Press up on gutter with single dolphin kick, accelerate on the way up. Relate to whole stroke.

Brent Rutemiller

Finger press drill. Do short 12.5 or 25s with fins. Concentrate on stretching hands outward during the catch. Sweeping hands inward until the fingers touch, then accelerate press backward with fingers touching as long as possible.

Streamlining Drills:

Brent Rutemiller

3 X 6 X 25 kick. First set, on side with legs straight. Generate power from the hips. Second set, concentrate on knee bend, then snap straight forward on side. Third set, concentrate on knee snap down followed by straight leg lift upward while on stomach.

Tom Himes

Underwater drill. Kicking without a board. Underwater kicking (widths). Refer to freestyle pull.

Kathy McKee

Streamline kick underwater on back or front.

Dan Patton

Mostly done during turn practice. Swimmers must kick streamline past the flags.

Kicking Drills:

Kathy McKee

One up drill. Kick on side with one hand up and the other at the side.

Dan Patton

Any direction drills. We do butterfly kick in all positions, on the back, on the side and on the stomach. If we use a board we make swimmers hold the bottom of the board so it doesn't limit hip movement.

Sherwood Watts

Switch Kicks. Kick on side, kick on front, water at hairline, keep feet below surface, breathe every fourth kick with no hesitation.

Tom Himes

Reverse fly kick. Fly kick on your back.

Brent Rutemiller

Back kicks. 3 X 4 X 25s kick on back with or without fins. Swimmer concentrates on kicking without the shoulders going below water and the knees not breaking the surface of the water.

Bill Thompson

Tempo drill. Four kicks to establish leg tempo. Then two swim cycles using that established tempo; kick underwater prone and supine; long distance on back, arms streamline, with or without fins.

Hand Entry Drills:

Tom Himes

Hand touch drill. Swimmers swim full fly stroke touching hands together at the point where the hands enter the water.

Brent Rutemiller

Broken 100s. 25 right arm, 25 left arm, three 25s right arm, three 25s left arm. Three normal 25 swims. (Concentrate on clean entry at shoulder width or slightly outside elbows. Flexed on entry, stretch underwater.)

Bill Thompson

Head up drill. Too narrow entry corrected by water polo drill. Head up butterfly with flutter kick, then progress in that drill for four strokes. Next, swim four strokes of regular butterfly

Dan Patton

One arm drill—doing one arm with the other arm out front. We have swimmers enter thumb first so that they can start the out-sweep with a good catch.

Finish Drills:

Sherwood Watts

Four kick fly—sometimes done with fins, most of the time without. Teach many things with this drill, mainly accelerate finish and kick. (Great for timing!)

Dan Patton

Stretch drill. Finishes are done by stretching into the wall with strong kicks and head down.

Tom Himes

Snapping drill. Swimmers start with arms in front. Swimmers should do the underwater pull (with both arms). "Snapping" both wrists at the end of the pull. The recovery should be underwater.

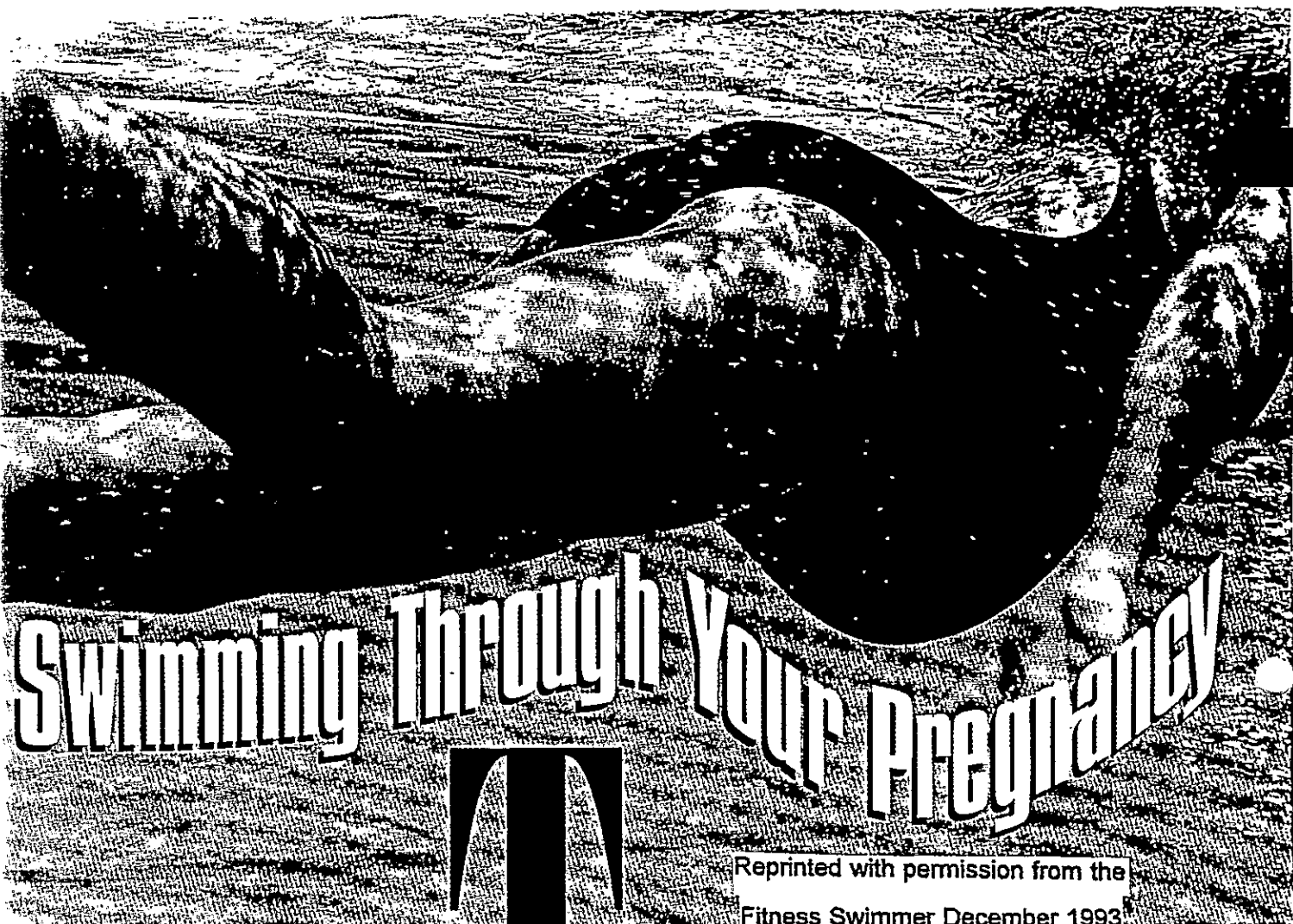
**"Whatever you would
make habitual,
practice it; . . ."**

NEWS FLASH !!!!!!!

The Adelaide Masters Relay Team, consisting of Andrew Martin, Noel Heritage, Suzette Petrick, Max Thompson, Chris Ford and Geoff Moffatt have been successful in conquering the mighty English Channel. In close to ideal conditions on the 19.7.1994 the team completed the swim in a time of 12hrs 15min. Quoted as saying it was a brilliant and unforgettable experience despite some severe seasickness, it was a memorable event in their lives.

On behalf of all AUSSI members, including some of us who will no doubt be extremely envious of such an honoured achievement,

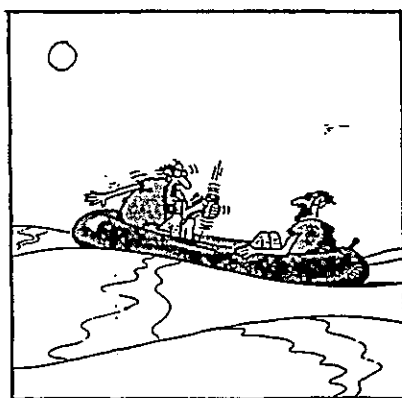
CONGRATULATIONS!



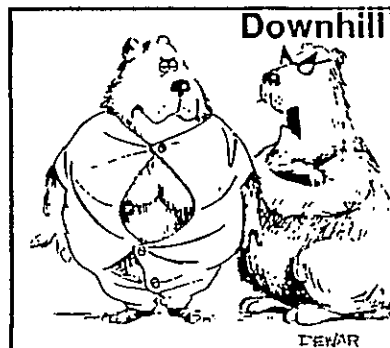
Swimming Through Your Pregnancy

Reprinted with permission from the
Fitness Swimmer December 1993

BY
MARY
BOLSTER



"OK, crybaby! You want the last soda?
Well, let me get it ready for you!"



Downhill

LEWIS

"It'll fit by the time you wake up!"

I

ink Murdoch started swimming laps just before the birth of her 11th child in 1965 and continued swimming through her last three

pregnancies. Looking back on those days, Murdoch, now a 65-year-old triathlete from Princeton, New Jersey, says her doctors didn't object to her swimming while pregnant but they didn't know much about its effects on the fetus, either.

Today, doctors know much more, thanks to interested sports physicians and obstetricians and to women, like Murdoch, who just *know* they feel better exercising through their pregnancies. Together, they continue to challenge conventional wisdom and push the parameters of currently accepted levels of exercise during pregnancy.

CHANGING TIDES

Twenty five years ago women were encouraged to stop exercising once they became pregnant. Eight years ago the American College of Obstetricians and Gynecologists (ACOG), in Washington,

D.C., issued guidelines that, for the first time, officially addressed the issue of exercise during pregnancy. Last year ACOG updated those guidelines and fully endorsed exercise, even for pregnant women who were previously sedentary.

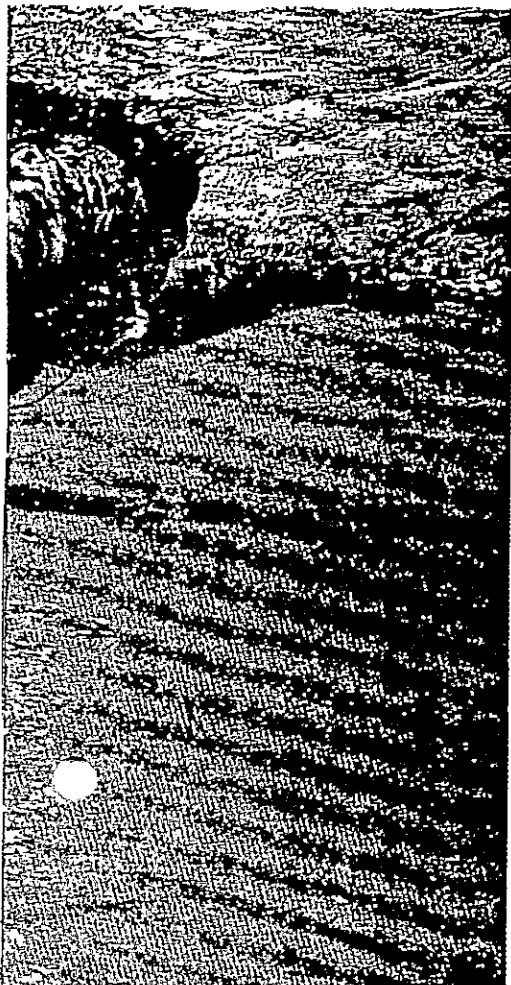
EXERCISE ENERGIZES

In its guidelines, ACOG suggests that staying active can reduce discomforts associated with pregnancy such as back pain, constipation and fatigue. In addition, ACOG says, regular exercise throughout pregnancy helps women adjust to added weight, improves their sense of well-being and self-image and gives them more energy.

Paula Radulski, a 37-year-old swimmer from Londonderry, New Hampshire, has never read the ACOG guidelines but her experience of exercising while pregnant confirms much of what is included in them. "As I got heavier—I gained 31 pounds—swimming was wonderful. Once I got in the water, I felt like I was on the moon. I had more energy. I felt more euphoric."

Another swimmer, 35-year-old Ann Marie Resnick from New York City, offers a simi-

the ideals of true sport
— namely that the "glory lies in the
struggle not the prize" (Baron de
Coubertin, founder of the modern Olympic Games, 1896).



HAROLD JOHNSON

lar testimonial: "I was *never, never* tired, even up to the end, because I was in such good shape. I had the easiest pregnancy and I think it's because I swam."

TAKE A LOAD OFF

These women and other water enthusiasts are finding increasing support for their decision to continue exercising through their pregnancy. Elsewhere in its guidelines, for example, ACOG urges pregnant women to avoid exercise that is high impact or involves jerky, bouncy movements, particularly in the last trimester. This is because during pregnancy, women release three hormones—relaxin, progesterone and estrogen—which loosen the tissue that connects muscles and joints in preparation for delivery. High-impact exercise can cause ligament damage or soreness.

Dr. Pat Kulpa, an obstetrician and sports physician in private practice in Tacoma, Washington, has studied the effects of exercise on more than 140 pregnant women. She has convinced many of her patients who run to switch to swimming in the third trimester because it gives them a good

workout without as much wear and tear on their bodies. She even recommends it to non-swimmers. "It's an excellent time to learn to swim because you're so buoyant," she says.

Valerie Raffle's doctors had a similar attitude so the 33-year-old New Yorker switched to deep-water running in the fifth month of her pregnancy. "My doctors were against running on the road but said, 'swim all you want,'" she says. She found the pool soothing and completely comfortable. "[Deep-water running] didn't bother me at all. There was no bouncing around. I couldn't shake. The float around me just had to get bigger," Raffle recalls.

Pam Ward, 37, preferred aerobics to running but now that she's pregnant she feels uncomfortable jumping up and down in class. "I prefer swimming. It eases the load. I have big babies and I'm not a big person so I get back pain. Swimming relieves everything," she says.

AVOID THE HEAT

Doctors such as Raffles', who follow ACOG guidelines, encourage their patients to exercise while pregnant, but not to the point of overheating. Although ACOG admits there is no conclusive proof that a mother's overheating negatively affects the fetus, it is concerned that prolonged hyperthermia—very high body temperature—during the first trimester may cause birth defects. Exercising in water may be an effective way to avoid overheating.

Research by Dr. Robert McMurray at the University of North Carolina in Raleigh appears to support water's anti-overheating property. He measured the core body temperature of seven pregnant women after they'd exercised at moderate intensity for 20 minutes on a stationary bike on dry land; he then repeated the process with them except he had them cycle in water. (Normal core body temperature for pregnant women is roughly 37.2 degrees Celsius.) He found that, while the women's core body temperature rose in both cases, the increase was less in water: 0.5 degrees Celsius on land and 0.1 degrees Celsius in the water.

Based on such findings, the Melpomene Institute in St. Paul, Minnesota, encourages pregnant women to exercise in a pool or air-conditioned health club to avoid overheating. A non-profit organization founded in 1982, the Institute researches and reports on the links between physical activity and women's health. It has produced

Exercise and Pregnancy, a comprehensive packet on the subject.

The Institute may have to qualify its recommendations about overheating, however, in light of new findings from a recent study at the MetroHealth Medical Center in Cleveland. When the study's researchers, Drs. James Clapp and Kathy Little, compared the core body temperature of 22 pregnant women when they swam laps to when they rode exercise bikes, the results were slightly different.

According to Dr. Little, the women's core temperature increased *more* after swimming for 20 minutes (up 0.5 degrees Celsius) than after biking on land for 20 minutes (up .25 degrees Celsius). When asked about the discrepancy between these findings and those of McMurray's, Little admits varying water temperatures could have been a factor. However, she feels additional studies need to be conducted with larger test groups to look at how different types of exercise may affect blood flow and core temperature. In fact, she and Dr. Clapp are just starting to research pregnant women who have taken up deep-water running.

TARGET PRACTICE

Research is still needed to determine a safe target heart rate for pregnant women during exercise. At the moment, there is no consensus among doctors. ACOG guidelines, which many sports physicians consider conservative, advise pregnant women not to exceed a target heart rate of 140 beats per minute.

Dr. Gloria Cohen, an obstetrician in private practice who specializes in sports medicine in Vancouver, British Columbia, thinks a better guide for determining a pregnant woman's target heart rate is her pre-pregnancy fitness level. "ACOG is on the conservative side which is important, but you should assess each patient individually," she says.

"Elite athletes are a different group. You can't generalize about them," notes Dr. Dan Ferrante, an obstetrician at Morristown Hospital in New Jersey. He and many other obstetricians and researchers recommend ACOG guidelines mainly for pregnant women who are sedentary and/or recreational athletes.

STOP AND LISTEN

"You've got to individualize. That's one of the drawbacks of the guidelines," says Dr. Kulpa, who recommends the Borg's Rate of

OLYMPIC DATES CONFIRMED

The board of the Sydney Organising Committee for the Olympic Games (SOCOG) recently confirmed the dates for the 2000 Olympic Games in Sydney.

The Games will begin on Saturday September 16th and end on Sunday October 1st. The Opening Ceremony will probably be on Friday, September 15th.

Borg's Rate of Perceived Exertion (RPE)

Many exercisers measure their heart rate at the end of their workout to determine how hard they've pushed themselves. For some of you, this may be confusing, impractical or even inaccurate. Gunnar Borg, a Swedish psychophysicist, has devised a Rate of Perceived Exertion (RPE) scale which purports to be much simpler and just as accurate. In his research on physical exertion, he found that participants were able to determine their heart rate readings based on how hard they *felt* they were working during a given exercise. He then matched the feelings with numbers and found that when exercisers said they were working somewhat hard (a rating of between 12 and 13), they were working at 60 percent of their maximal heart rate reserve. Borg's research showed that the RPE scale correlated closely with heart rate, ventilation, oxygen consumption and blood lactate concentration. An RPE scale is particularly useful for swimmers and water exercisers since the heart rate is not a reliable measurement of exertion for aquatic exercise.

6	
7	Very, very light
8	
9	Very light
10	
11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Very, very hard
20	

THE NUMBERS IN THE LEFT-HAND COLUMN CORRESPOND TO A SIX-SECOND LAND-BASED EXERCISE HEART RATE.

Perceived Exertion scale (see box) as an effective exercise determinant for pregnant women because it helps put them in tune with their bodies. When pregnant women listen to their bodies, they're better off, according to Kulpa. "My patients slowed themselves down. They did it without me telling them. Their bodies were telling them to slow down," she says.

That's what happened to Arlene White, a 37-year-old Masters swimmer from Fairfax, Virginia. "I was starting to swim slower, especially after my weight gain. My times were slower even with the same energy but I still felt good," White explains.

Kate Barbour, a 29-year-old who swims with Murdoch in Princeton, had a similar experience during her pregnancy. "I didn't strain myself. I just hung back. I swam with a slower group. As long as I didn't push myself, I could go forever," she remembers.

Huddie Walsh Murray is another swimmer who adjusted her workout pace during pregnancy. "I certainly got out of breath more easily but I still did some pretty hard sets," admits this 36-year-old Texan and mother of six. She was careful, she says, not to get her heart rate up too high for too long. "Butterfly was the easiest stroke for me but I didn't do it too hard," says Murray, who, in the 1970s, was ranked among the top 25 in the world in 200 butterfly.

SWIMMING SUITS YOU

The benefits of water exercise and swimming are obvious to these women and, although swimming's effect on core body temperature is still being debated, its positive effect on ligaments and joints is crystal clear to many physicians.

"Swimming is an ideal sport," says Dr. Ralph Hale, executive director of ACOG and a member of the sports medicine team for the U.S. National Women's swimming team. "There are no contra-indications as far as I'm concerned. Water aerobics is [also] an excellent exercise. There's no stress on the hips or joints."

Ann Moore, MS, a nurse midwife in New York City with a degree in exercise physiology, echoes these sentiments: "Swimming is



DANIEL KRON

wonderful during pregnancy because of non-stress on joints. The horizontal position is also good. Swimming also helps to get rid of edema [swelling] during pregnancy."

"It's certainly a lot better than bronco-busting or downhill skiing," quips Dr. Lawrence Longo, a professor of obstetrics and gynecology at Loma Linda University School of Medicine in Loma Linda, California. "If one were looking for an ideal exercise during pregnancy, swimming would be it."

It was for Barbara Nathan, a 33-year-old technical writer from Bethel, Connecticut, who swam through her two pregnancies. "Swimming was great. It was therapeutic. The nice part was getting off my feet. I would get in the water and do some stretching," she says.

MOMS MOVIN'

Eager to reap the benefits of water exercise, Tammie Thompson Perkins, a 35-year-old freelance writer from Truckee, California, joined an aquatics fitness class in nearby Tahoe City. Called *Movin' Mothers*, the program is designed specifically for pre- and post-natal women. "I thought the program was great, especially from a

You are what you are and you are where you are because of what has gone into your mind. You change what you are and you change where you are by changing what goes into your mind.

Zig Ziglar

Just a reminder that one of the AUSSI Products available from the National Office (and possibly the Branches) is the Supersets program devised by Anita Killmier. This training set can be swum by any swimmer who can complete between 6 and 10 x 100m swims, and has 10 different levels for each of the 5 year age groups. Coaches may like to incorporate them into their training sessions.

mental standpoint. It gave me the chance to talk to other women my age who were having kids," she says. Perkins also felt the program's founder, Sarah Lewis, was a particularly effective instructor. "Sarah knew her anatomy. She told us when to take it easy and when to push," she explains.

In an ideal world, all women would be exercising during pregnancy, but in reality, as Dr. Longo points out, "we still live in a society where 20 percent of pregnant women smoke and drink. I think a moderate exercise program should be part of a whole gestalt of how one approaches pregnancy."

Dr. Ferrante concurs, emphasizing that exercise benefits pregnant and non-pregnant women in the same way — lowers cholesterol levels, reduces the risk of heart disease and osteoporosis and increases energy levels. Also, studies published in *The American Journal of Obstetrics and Gynecology* and *Experientia* among others suggest that women who exercise during pregnancy cope much better with labor pains.

Dr. Kulpa says there is also evidence that exercise during pregnancy reduces the risk of gestational-induced diabetes. "Because exercise burns off glucose it helps to regulate sugar levels. Regular exercise isn't go-

ing to help all pregnant women reduce the risk, but it will help those who are borderline," she states.

EXCEPTIONS

Despite all the talk about the positive effects of exercise during pregnancy, a significant warning remains: Women with high-risk pregnancies should not exercise, regardless of their pre-pregnancy physical history and fitness. These guidelines and recommendations are tailored for women at low or no risk for complications during pregnancy.

The following tips, the medical community agrees, are useful for pregnant women who are considering swimming or some other form of exercise:

- Consult your doctor before starting an exercise program.
- Do not begin a rigorous training program during your pregnancy.
- Do not exercise to lose weight.
- Eat sensibly and regularly.
- Avoid overexertion.
- Listen to your body and learn to identify warning signals to stop or modify your exercise regimen.
- Do not dive or jump into the water and

avoid waterskiing.

•If you feel contractions or joint pains, either stop swimming or choose a different stroke or style (e.g. sidestroke, breast stroke, kicking).

•Swim according to your abilities.

As Judy Mahle Lutter, co-founder of the Melpomene Institute, says, "Some [pregnant] women have been scolded by strangers for exercising, but intelligent women are still looking for scientific confirmation to bolster their instinct that this [exercise] is right."

Movin' Mothers' Lewis is providing some of that scientific confirmation. She's conducting research at the University of Nevada in Reno to determine the effects of water exercise. "We're finding that women can get in the water with very little risk [to the pregnancy]. The cushioning effect of water is protective to her joints...I'm not trying to be biased but the data are suggesting that water is better for the body," she says.

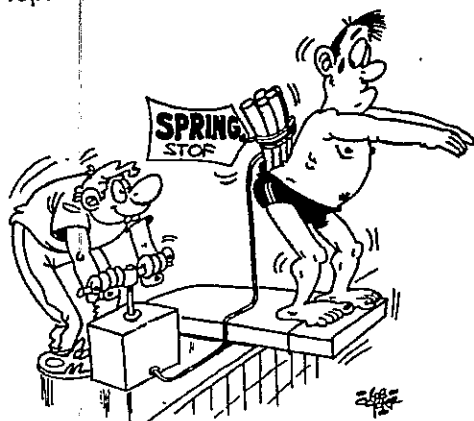
Apparently, pregnant women who swim or do water exercise don't need data to convince them of that.

Mary Bolster is Fitness Swimmer's associate editor.

SWIMMERS AND RUNNERS: WHO HAS TO WORK HARDER?

A New Jersey swimmer claims he now knows who works harder: swimmers or runners. According to the April 21, 1993 *New York Times*, Educational Testing Service statistician Dr. Howard Wainer compared world record times for the two sports, and found that male runners went 3.75 times as far as male swimmers in the same amount of time (the ratio was 3.5:1 for women). Knowing who goes farther and by how much, and then factoring in some oxygen consumption measurements, Dr. Wainer, the *Times* reports, concluded that minute for minute, champion swimmers burn 25% more calories than champion runners. Want to identify your more efficient sport? Statisticians say just divide your best running speed by your best swimming speed. If the ratio is less than those above, you're a better swimmer than you are a runner. Higher, you're more efficient when you're running.

Reprinted from MasterSports



A GOOD COACH IS . . .

- A ROLE MODEL
- A MANAGER
- A MOTIVATOR
- AN ORGANISER
- A GOOD LISTENER
- A SKILL DEVELOPER
- A SKILL SHARER
- A CONFIDENCE BOOSTER
- A COMMUNICATOR
- A LEADER
- A NEGOTIATOR
- AN ENCOURAGER
- A FACILITATOR
- AN INSPIRATION

Australian Coaching Council Inc.

Shelley sets 42km record

MARATHON swimmer Shelley Taylor-Smith battled agonising pain in her arms and a less-than-ideal preparation to break her own 42km world record on Sunday at the Canadian International marathon swim at Lake Magog near Quebec.

Taylor-Smith slashed more than 22 minutes off her previous record, set in 1990, coming home in 8h 37m 46s.

"It was quite remarkable," Taylor-Smith said. "I wasn't rested for the race. I was in Newark a week ago and I have been training for the world championships. I didn't rest at all."

She said she went through agony during the first three hours of the race because of the lactic acid that had built up in her arms during her heavy training.

"But after that I felt comfortable and treated it as three, three-hour training sessions," she said.

The Canadian marathon was contested by the world's top 21 marathon swimmers.

AAP

It takes patience to endure the monotony of repetition.

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COMING EVENTS

October 15th - 23rd -

Honda Central Australian
Masters Games

Alice Springs

1995

January 28th-29th
February 4th
March 23rd-25th
April 13th - 17th
June 1st - 4th

Spanish Winter Championships
Finnish Super Masters
Sth African Masters Swim
20th AUSSI National Swim
HUMU International Masters
Swimming Championships
The MSI Hawaii Festival
5th Australian Masters Games

Andorra La Vella
Espoo Finland
Nels Pruitt Sth Africa
Perth
Honolulu Hawaii
Honolulu Hawaii
Melbourne

1996

March 21st
June 22nd - July 2nd

AUSSI National Swim
World Masters Swim

Canberra
Sheffield England

AUSSI RESOURCE CENTRE

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

Items are available for the following hiring charges:

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

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

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

AUDIO TAPES

* THE CREATIVE PERFORMANCE INSTITUTE

1. Guided Imagery for Racing Risk Taking & Racing
2. Guided Imagery for Training Commitment & Training Today Relaxation and Mental Rehearsal

* AUSTRALIAN COACHES CONFERENCE SERIES 1990

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

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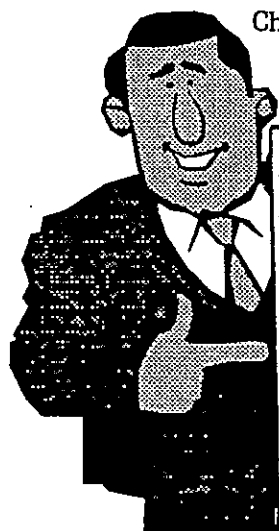
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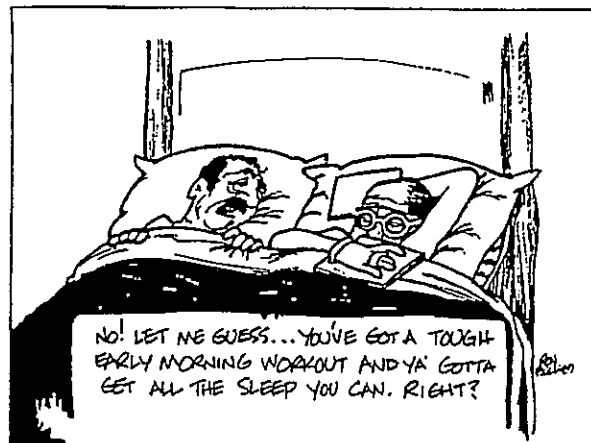
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Mastering Swimming
A Self-Help Guide for Coaches
and Swimmers
Anita Killmier (Editor)

Mastering Swimming is a book for anyone who wants to know more about swimming – coaches, swimmers and teachers alike. It is for both young and old; those who train in a group and those who train alone; those who are experienced swimmers and those who are just starting out; but most importantly it is for those who want to gain more from their chosen sport – swimming.

RRP \$26.95



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