

AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

NOVEMBER 1994



1994
THE YEAR
OF the
COACH

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NUMBER 4

Christmas has crept up on me all too soon, but it serves to remind me of the various house keeping duties that also occur at this time.

One aspect of coaching that always elicits a groan is the issue of coaching insurance.

All coaches and clubs owe a "duty of care" to those in their charge. It is the coaches responsibility to ensure that they are adequately covered for their particular set of circumstances and to shop around for the best cover. Keep in mind that the cheapest cover may not be the best.

Swimming teachers are able to insure through the AUSTSWIM policy. Similarly, coaches who are members of the Australian Swimming Coaches Association have a whole range of insurance options open to them to suit a variety of circumstances, whether an employee or an employer, coaching or teaching, and coaching adults or age groupers.

Swim school operators who are members of the Swim School Owners Association also have an insurance policy tailored to suit their needs.

AUSSI have their own insurance policy for coaches and the application form is enclosed on page 29. A brief article on insurance is included on page 24.

When deciding on a policy make sure you understand EXACTLY for what you are covered, and to what extent. If you are only coaching an AUSSI club, your AUSSI insurance may be enough. However, if you coach at a variety of locations, teach swimming, or coach groups other than AUSSI you may find this policy inadequate.

Christmas is also a time for thanking others and I would like to suggest that it may be appropriate to show your appreciation to your hard working committee members and volunteers.

As the 'Year of the Coach' draws to a close you may consider patting your coach on the back by nominating him/her for the AUSSI 'Coach of the Year' award. See page 7 for details.

You may have noticed that sprinkled throughout every issue are short inspirational sayings and positive affirmations. I try to put these to good use in my coaching either by writing them in the log books of my age groupers, writing one up with each workout, or even putting a different one up on the noticeboard each week. I believe this helps build a positive environment, and instils those qualities of sportsmanship which we so admire.

I would dearly like to hear from anyone who has any other ideas as to how they can be used, or, if you have a favourite gem please send it to me for inclusion in successive issues.

Have a safe and festive holiday season.

Anita Killmier

HIV/AIDS

HEPATITIS B AND JUNIOR SPORT

Information for
coaches, players,
teachers, parents
and students

Disposable mask (1) For administering EAR or CPR to a non-breathing player. Using the mask prevents the rescuer's mouth contacting the patient's mouth, thereby reducing the risk of body fluid transfer. Only qualified people should administer EAR or CPR (cost: \$6.50)

Sterile combine dressing pads (2) Pads to place over wounds to quickly stem bleeding (cost: 44 cents each)

Sterile triangular bandage (2) Can be used as a broad or thin bandage for dressing or pads to stop bleeding (cost: \$8)

Note pad and pencil (1) Useful for giving a quick message to a young player to relay to another adult (cost: \$1.50)

Sticking plasters (1 packet) For covering smaller cuts or wounds (cost: \$1.50)

(Cost of medical supplies for bag based on Red Cross Society 1993 costs.)

Waist bag (1) Large enough to contain all items. Fits very comfortably around the waist and is at the ready for any emergency (cost: approx \$10)



In a discussion of HIV/AIDS and Hepatitis B it is very important to have a clear and accurate understanding of the meaning of the terms. Once the facts and definitions are clear we can consider the implications for junior sport. Geoff Frier explains.

The Facts

□ HIV is the name given to a particular virus capable of severely damaging a person's immune system. Once this virus enters the body it lives in the body's cells. HIV is capable of remaining dormant for many years without greatly affecting the person.

However, once it begins to attack the immune system, the damage can be so great the infected person becomes susceptible to a wide range of infections and cancers.

□ AIDS is a syndrome or collection of symptoms which occur when a person is seriously infected by HIV. In this situation the person's immune

system is so depleted their body becomes susceptible to a variety of infections seeking the opportunity to attack.

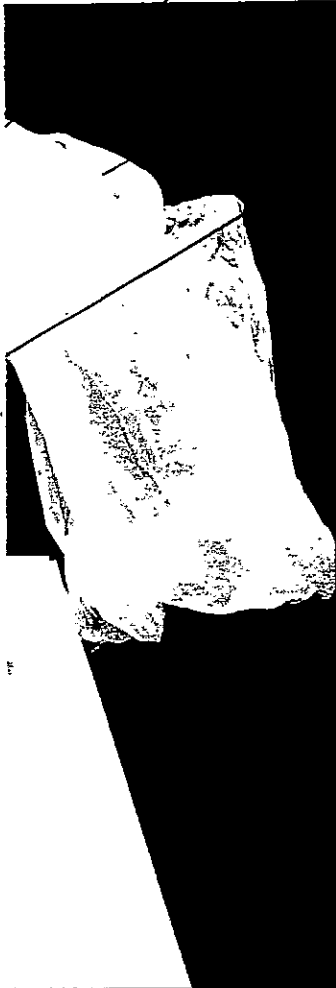
Remember AIDS is not one disease but a collection of symptoms (a syndrome).

□ Hepatitis B is a viral infection. The majority of infected people do not have long-lasting or

Disposable latex gloves (2 pairs)
Latex gloves for assisting a bleeding
player or handling blood-soiled
articles (cost: 30 cents a pair)

Plastic bag (1)
Suitable for
storing soiled
bandages and
garments before
disposal or
disinfection
(cost: 10 cents)

Stainless steel
scissors (1)
Useful for cutting
bandages or
clothing. Blunt/
sharp pair
prevents
perforation of
other items
(cost: \$2.40)



Many coaches and teachers
are now wearing the popular
waist ('bum') bags packed
with emergency first aid
equipment (refer to diagram).
These bags are easily carried
while coaching or teaching,
are relatively inexpensive to
purchase and enable the adult
to stay at the scene and treat
a serious injury.

serious problems. However, some infected
people can develop life threatening diseases
such as liver cancer. The Hepatitis B virus is
known to be carried in most body fluids such as
blood, sexual fluids, sweat, tears and saliva.
The Hepatitis B virus is considerably more
infectious than HIV.

Transmission of HIV/AIDS

Blood, sexual fluids (semen and vaginal
secretions) and possibly breast milk are the only
transportation modes by which HIV passes from
an infected person's body to someone else. To
cause infection, HIV must leave one body and
pass into the bloodstream of another.
Although HIV has been discovered in other
body fluids such as tears and saliva, it is not
present in sufficient quantity to be infective and
therefore does not present a problem.

□ A large number of studies have investigated
the risk of HIV transmission through normal
social contact such as shared towels and drink
flasks, using public toilets, hugging and kissing.
None of these studies has found evidence of HIV
infection through casual social contact.

□ The good news is that HIV infection is an
extremely remote possibility in any sporting
scene. For infection to occur, blood from a
player's open wound would have to come into
direct contact with another player's open wound.
The contact would then need to be such that the
virus (in a large enough quantity) can enter the
recipient's bloodstream, an event which in the
past, has not been known to occur.

Transmission of Hepatitis B

□ The bad news is that Hepatitis B, as with a
number of other viruses, is far more easily
transmitted than HIV. Coaches, teachers,
players and parents need to be well informed
about basic hygiene and the correct first aid
procedures to prevent the possibility of
contracting Hepatitis B.

Because Hepatitis B is so highly infectious we
must be careful with all body fluids. A risk of
transmission exists because of possible blood
traces in body fluids such as vomit, saliva and
faeces.

The Hepatitis B virus is tougher than HIV and
consequently lives longer outside the body (for
example in blood spills or vomit containing
traces of blood).

So what does this mean for the junior sport
team? It means that blood or body fluid loss from
all players should be treated as potentially
infectious. This means we don't need to know
the health status of the player receiving treatment
for the bleeding nose or cut knee. This also
applies to cleaning up a blood spill or vomit from
an unknown source. We simply get on with the
job at hand in an efficient and safe manner.
Furthermore coaches, team officials, teachers
and parents are important role models to the
younger people. We need to demonstrate
sound infection-control practices on all
occasions. This will, through repetition, instil a
healthy respect for hygiene and safety in all
young players.

Important considerations

□ Education

Conduct workshops and hand out literature to
educate coaches, parents and players about
HIV and Hepatitis B as you do with other issues.
Invite guest speakers to present information at
regular meetings. Remember to educate, not
discriminate!

Educate coaches, team officials, parents and
players about hygiene routines and basic first
aid.

□ Policy development

Develop a first aid hygiene policy for your club
or association, clearly indicating the infection-
control procedures for handling both routine
and emergency situations. The policy should
require all supervising adults (coaches, parents,
managers) to hold a basic first aid certificate.

□ Encouragement of safe practices

● Do not allow players to put their mouths on
another person's drink bottle. Ensure individual
labelled drink bottles are available for each
player.

● Insist on players notifying the coach or
manager and leaving the field or court wherever
bleeding occurs. Once the cut is covered the
player may return to play. Encourage children
to administer their own bleeding control where
possible (for example, nose bleeds).

● Regularly update resuscitation techniques so
people are confident of handling any serious
problem.

□ Equipment

Be prepared for emergencies by having the
necessary equipment readily available to deal
with the problem both safely and efficiently.
Many coaches and teachers are now wearing
the popular waist ('bum') bags packed with
emergency first aid equipment (refer to
diagram). These bags are easily carried while
coaching or teaching, are relatively inexpensive
to purchase and enable the adult to stay at the
scene and treat a serious injury. ◆

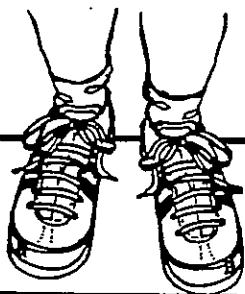
How to clean up a body fluid spill from the court or
change-room floor

Equipment: bleach, disposable latex gloves, paper towels,
disposable plastic bag, hot water and detergent.

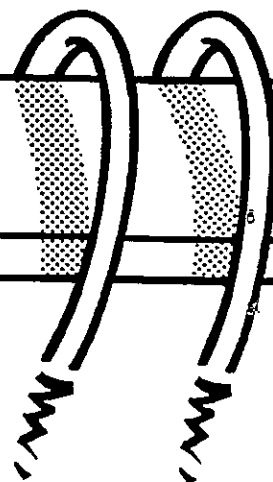
Procedure

1. Using the gloves, remove as much as possible with the
paper towels - place them immediately in the plastic bag.
2. Mop the surface with hot water and detergent.
3. Wipe area with the freshly prepared household bleach
(approximately one quarter cup bleach to one
cup of water).
4. Place all materials (including gloves) into plastic bag.
5. Seal plastic bag and dispose safely.
6. Wash your hands.

Note: on carpets the bleach will probably cause damage
so sponge area thoroughly with cold water and detergent.



KEEPING YOUR COOL WHEN ANGER STRIKES



When the tempers of finely-drawn athletes become frayed, anger may strike in even the happiest of teams. While venting anger may sometimes serve to clear the air, sudden outbursts may only upset team morale. As leaders and role models, all coaches should know how to "keep their cool," and help others to do the same. Learning to control one's emotions is one of the positive "spin-offs" of competitive swimming.

Angry confrontations often stem from breaking team rules. These rules usually govern pool courtesy, behavior at practice and meets, and while traveling. They are for the good of all members and the smooth functioning of the team.

Rivalry between swimmers, swimming families, coaches and teams, may sometimes lead to jealousy and/or angry, unpleasant incidents. Sometimes, an already tense situation can be inflamed by irate parents who leap too quickly to the defense of their children before knowing all the facts. Such incidents have the potential to split a team, with rival factions seeking to set the blame on others. It is very important for a coach to be able to manage and control the anger between diverse groups on a team.

Although anger may be triggered by many reasons, specific events and provocations, it should be appreciated that anger also involves complex feel-

ings. We may express anger in many ways; by becoming annoyed, irritated, frustrated, furious, enraged and even hurt. Anger that is not managed may lead to a prolonged series of negative or even destructive thoughts and actions.

For instance, a swimmer may feel jealous about the success of a close rival, or labor under the misapprehension that the coach has favorites. Veiled anger may show up during that swimmer's circle training with the occurrence of minor "skirmishes." For example, a swimmer may obstruct and annoy another while swimming repeat sets. The coach may notice a developing situation and also become annoyed. Then more people become involved and enraged.

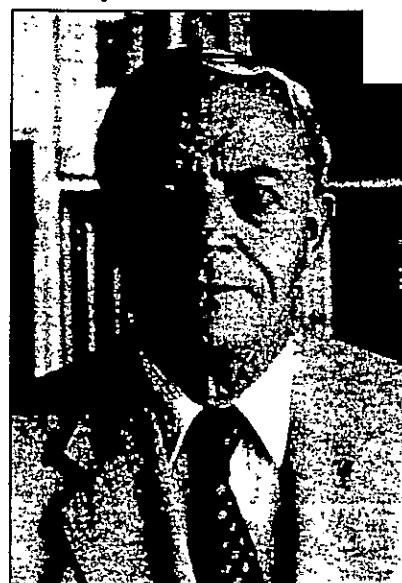
At this juncture, a wise coach will ask himself, "Why does this swimmer feel the need to interfere with others in the training lane? Why has this swimmer got an axe to grind? What is the swimmer trying to communicate to others on the team? What is the potential threat or loss that would prompt this type of behavior?"

Coaches need to learn how to control the emotions of their swimmers to create consistently positive workouts.

There could be many underlying reasons for the swimmer's behavior. When a coach has a good understanding of the various personalities on the team, sometimes answers may come readily to mind. For example, a youngster who has been spoiled at home may be prepared to go through life believing that everything needs to go a certain way because he/she wants it that way.

Then there are swimmers who feel a

by Cecil Colwin



Another Masters workout

- Take long, hot, cleansing soap shower.
- Talk to lifeguards and fellow swimmers.
- Pick a lane, sit on edge, stretch.
- See if water is getting warmer or dryer.
- Pick a new lane.
- Try tossing your goggles so they get caught on the backstroke flags. If you succeed, you don't have to go in.
- Fully examine and recalibrate all parts of your goggles.
- Think about why you do this to yourself.
- Begin long, slow warmup with no plan.
- Alternate no-stress breaststroke 50's wherever possible.
- If tunes in pool, take time to listen to really appreciate all the good parts.
- Take a long hot shower.
- Go home and eat lots. You've earned it!

— Lisa & Dave Ackerman

Reprinted from Swimming Technique Nov-Jan 1994

New England Masters Swim Club

No matter how much knowledge a coach has, no matter how great his understanding of the physical and emotional needs of his athletes, his success or failure....boils down to one thing - communication. In his relationship with his athletes almost all of the coach's time will be spent in transferring his knowledge to those athletes and making sure they know what is expected of them.

(Tutko and Richards, 1971)

need to control other swimmers by taking charge of the way a workout should proceed. A training pace that is too fast (in this swimmer's view) may need to be slowed down, or maybe the pace is too slow and needs to be speeded up. This swimmer believes, "others on the team will take advantage of me if I am not in control."

The examples above are typical situations that may cause conscientious swimmers to become frustrated and angry with seemingly less dedicated teammates. If not handled wisely, such situations may lead to more conflict and anger within the team.

At times a coach may notice two swimmers having words as a result of disruptive behavior. The coach may choose to ask both swimmers to report after training to discuss the matter. Here it is a good idea for a coach to be able to listen attentively to what angry swimmers have to say and help them to discover healthy outlets. One way the coach can then help a swimmer get rid of negative beliefs that cause anger is by helping the swimmer create a visualization for change.

Ideally, swimmers who have a history of negative "hang-ups" about the coach and the team should learn to let

go of the past, release the hurt for peace of mind, and, in this way, clear the way for a positive future in the sport. It is important for swimmers to know why they get angry and to understand exactly what it is that provokes them.

Once they start to understand some of the factors involved when one becomes angry, it is possible to develop techniques for handling future provocations. This will help prevent anger from escalating. Swimmers can learn to prevent thoughts that may lead to anger and practice coping skills to increase tolerance to provocative situations.

Most of what makes people angry is caused by feelings and injustice, hurt, frustration and annoyance. Knowing whether we are being provoked by incidents that are unfair, abusive, frustrating, or annoying can help us learn lasting skills to help us manage anger.

We should remember that sometimes anger may actually be justified. For example, when we are subjected to a real and deliberate threat or when someone purposely sets out to embarrass, betray or hurt us. On the other hand, examples of unjust anger are when we become steamed up about situations over which we have no control; traffic jams, a late aircraft departure,

inclement weather that spoils a social function.

By assessing whether anger is justified or unjustified, we learn to assess and control our reactions in a more rational fashion. The important point is not to create a problem where none exists. Swimmers should ask themselves such questions as, "Does my anger hurt me or others? Is my anger justified? How can I make my anger work for me, and not against me?"

Before you become too heavily psychological, ask yourself whether you can see some potential humor in what otherwise seems to be a potentially irritating situation.

For a coach, sometimes having a clown on the team may lighten the load when the going is tough. In this case the coach may choose not to notice these antics. Being able to retain a sense of humor, even when anxious to guide the team efficiently through a workout, may often stand testament to a wise coach in good stead.

However, at times a swimmer may like to test a coach in a little game of "brinkmanship" by not entering the water promptly at the start of practice. I once saw how the great Yale and United States coach Bob Kiphuth handled this when a swimmer dove in, swam to the shallow end and sat down. Kiphuth called across the pool, "John, if you want to take a bath, bring a cake of soap with you!"

By introducing a little humor (and a slight put-down), Kiphuth got the workout started quickly.

Another example is the daily routine that "Doc" Counsilman and Mark Spitz found funny. (Nail Amdur, "New York Times", August 25, 1972) "Mark would put his toes in the water and say it's too cold. When he got out of the water, Counsilman would take a leather belt and chase Mark around the pool, into the stands and finally back into the water."

Finally, may I respectfully suggest that you study the calm, relaxed demeanor of coaches such as Eddie Reese, Daryk Snelling and other leading figures. Then ask yourself whether you have ever seen them angry. I haven't. Their behavior could be telling us something about their success.

The sensuality of swimming

By **HERBERT ORENSTEIN**

I REMEMBER reading Kurt Vonnegut when he once described himself as rolling in puppy fat and awkward in the extreme - except when he was swimming. In the water he was beautiful. It was as if he had been born on the wrong planet. I think I know what he meant. And more. We drive ourselves to the pool, submit to the coach who, lap after lap, pushes us to the limits of our endurance and beyond. We lose part of our consciousness, approach weightlessness, we hear less, our vision is impaired. Willingly. Joyfully.

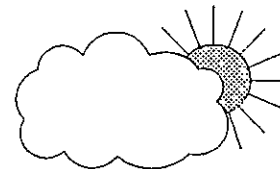
Two books recently in my possession, while not teaching me how to swim faster, intrigued me, held up a metaphoric mirror to myself and my reflection in the water. Robert Drewe edited *The Picador Book of the Beach*, an anthology of short stories from writers including Italo Calvino, Nadine Gordimer, Gabriel Garcia Marquez, Helen Garner (she who first lured me to the Fitzroy baths after I read "Aqua Profunda" in *Monkey Grip*), stories with titles like "Learning to Swim", "The Water was Dark and it Went Down

Forever", "Lifeguard". And, although this collection is international, its premise is soundly Australian. To the myth of the bush is put paid; 80 per cent of all Australians live along the coastal rim, and it is to the beach we run in joy and in sadness, where we turn first for recreation, for relief from the heat, to celebrate the end of the cold and the start of a new year.

"Many, if not most, Australians have their first sexual experience on the coast and as a consequence see the beach in a sensual and nostalgic light. Thereafter, the beach ... fulfils an almost ceremonial need at each critical physical and emotional stage: as lovers, as honeymooners, as parents and, after travelling north to the particular piece of coastline befitting their class and superannuation, the elderly retired. And those who haven't moved to the coast might find themselves there anyway - placed by their children in one of the old people's homes and hospitals which line the Esplanades and



Continued on page 9.



Sunglasses

A Path Through the Jungle of Gobbledegook !

Sid Salek of Durham Light Masters, as well as being a most accomplished swimmer, is also a retired Optometrist. In this article he provides a straightforward guide on what to look for in purchasing your sunglasses.

Reprinted from Masterscrawl September 1993

Your first question is likely to be "How much do sunglasses really protect the eyes from ultra violet radiation damage ?" The most common argument for enforced ultra violet protection is that "sunglasses, because they usually have tinted lenses, absorb light. When they are worn, the pupil dilates, therefore the amount of ultra-violet radiation entering the eye is greater than if sunglasses are not worn, consequently additional ultra-violet absorption must be incorporated."

This reasoning appears quite sound on first appraisal, but lacks real substance.

Ultra-violet transmittance is reduced by up to 13% by front surface reflection. The amount of ultra-violet absorption varies widely. The tint which reduces visible light also reduces the ultra-violet and is loosely related to the visible colour. Dark brown could be expected to have better ultra-violet absorption than light blue or neutral density.

Light energy is measured by its wavelength. The term "Nm" you'll hear bandied about by folk who wish to impress you is the nomenclature used for this measurement. Having this knowledge you can now get a grip on the edge of the visible spectrum which lies at 400Nm. (Don't go away, there's more!) As little sunlight reaches the earth at wavelengths less than 295Nm, ultra-violet effectiveness at this level is inconsequential. Similarly, wavelengths longer than 320Nm have little effect on the skin tissue. In fact, some 99.5% of effect is caused by shorter wavelengths (less than 315Nm). If you're still there, then the point of all this information is that the 295-320Nm (transmittance) region is effectively filtered by plain glass and plastic lens materials without tints or extra ultra-violet absorbers. All sunglass lenses are at least partial absorbers and most are very effective . . . Phew!

In effect in Australia and shortly to be introduced to New Zealand, is a labelling system entitled EPF which stands for Eye Protection Factor which will be rated from 1-10, depending on the level of ultra violet protection covered. This is based on some very highly technical and arguable (by the boffins!) calculations, but nevertheless is a long over-due consumer based guide. There are no hints which will enable you to compare two parts of sunglasses on a rack on the basis of lens materials. Measurement with a thing called a spectrophotometer and proper labelling is the only solution. The small ultra-violet comparitor/absorption units used in some retail outlets at present only tell the true story if you ask for a comparison with clear glass and/or plastic.

The next topic for consideration is that of value for money . . . often a very subjective and again confusing area to navigate through. Some products have excellent quality frames, adjustable sides (temples) and good fitting for your face, nose (bridge) fittings, but poor quality lenses. The converse may equally be the case. A simple check for the basic optical integrity of a lens is to find the reflection of a straight line light source (overhead fluorescent tube or similar square fitting) on the inside or concave side of the lens. Tilt the sunglasses so that the reflection moves across the lens. If the image alters or becomes wavy, "flag it mate!" Choose another make or model.

It is impossible to judge the overall quality on the basis of whether lenses are plastic or glass. Plastic is lighter than glass and less likely to shatter depending on thickness and hardening factors. Thickness is difficult to judge (without the calipers you just happen to have in your pocket!) and plastic suffers from "scuffing" more readily than glass. The best quality lenses are usually made from glass, but be sure that they are ground and polished, not pressed. The reflection test will leave you in no doubt. A lens which makes no alteration to the integrity of the image must have both surfaces absolutely parallel and equi-distant. This is relatively simple to produce in plastic once the moulds are accurately set up. By and large, it's better to stay with the larger international brands manufactured by recognised optical suppliers if you are serious about eyewear.

Finally, they must fit properly. Frame fitting is not just sticking them under the hot tap and giving them a bend here and there. Optometrists and Optical Dispensers spend years learning the skills and generally don't charge for this service, providing you buy your Sunnies from them. Make sure they fit comfortably on the nose, off the cheeks, close to your eyes and don't slip forward when you lean over. Drilling a small hole in the plastic paddle end of the temple and typing a length of hat elastic is a good safety feature and a much less unsightly alternative to those spec cords. Now that you've thrashed your brain through this missive, tramped the town, "screwed up" the no-knowledge sales attendants and finally satisfied both your ego and your budget, go out and enjoy what nature has to offer.

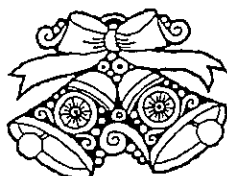
A great deal of public comment concerning sunglasses emanates from consumer organisations, universities, anti-cancer organisations and from government research institutes. Not surprisingly much of this comment gets tossed into the gobbledegook basket because the public understands little about the technology involved.



Two terms which give rise to confusion are "transmittance" (the light actually passed) and "absorption" (the light absorbed or filtered out). Transmittance is what's left after absorption.



MASTERS SWIMMING COACH OF THE YEAR

ATTENTION ALL CLUBS!!!!!!!

Nominations for "Coach of the Year" will close with the National Executive Director on 1 March each year.

Presentation of the Award will be at the AUSSI National Swim and when applicable, the ASCA Conference too.

CRITERIA for judgement will be:

- * accredited Masters Swimming Coach.
- * current AUSSI Member, for at least twelve months.
- * demonstrated a proven capacity to improve the level of performance of Masters Swimmers.
- * practices and espouses a philosophy of fair play.
- * presents a positive image of coaching and the role of the coach.
- * demonstrates concern for the development of Masters Swimmers in and out of the sporting arena.
- * demonstrates the application of relevant coaching theory.
- * outstanding contribution in coaching and/or towards the development of coaching at Club, Branch or National level.

The judgement will be made essentially for the achievements during the previous calendar year, but if this is the culmination of an extended period of activity, the preceding contributions will be part of the consideration too.

Branches may nominate more than one candidate.

The Coaching Panel, being the most qualified to make a decision, will do so if practical, but any member who is a nominee, obviously cannot participate in the selection process. The endorsement and/or final judgement will rest with the Management Committee.

Notes for "Coach of the Year" nominations:



- Winners to date are high profile coaches and certainly have made meritorious contributions to Masters Swimming coaching, but an extraordinary contribution/application above and beyond the call of duty at Club level will be equally considered - if the judging panel knows about it.
- Submissions need to be well documented and related to the criteria for judging. It is a "coach" we are looking for, not just a popular personality.
- "Performance" referred to in criterion 3, can mean an improvement in times, technique, greater distance and/or a higher level of fitness.
- It is a Coach of the Year award. Some submissions in the past barely related to the good work done in the year under consideration.
- The criteria and above notations are from the Coaching Directors' workshops held in Adelaide in April 1992. A recommendation from the Workshop is that Branches should consider a Branch Coach of the year too.

We put the call out with plenty of notice again because:

1. response in the past has been disappointing (in quantity of nominations - quality has been excellent)
2. Clubs owe or have a duty to their Coach to spend time and prepare an appropriate standard of submission in keeping with the many hours of quality work their coach has given to the Club - paid or not.

TAILORING A PROGRAMME

A COACHING SEMINAR WITH ANITA KILLMIER

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

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

- Elements of physical fitness
- Energy systems used in swimming and how to train these systems for specific events
- Pulse rate counting
- Goal Setting
- Devising a Seasonal Plan



How to deal with breaststroke pain

BREASTSTROKERS place a great deal of stress on their knees while performing the movements necessary for propulsion. Some swimmers complain of pain because of the kick. This can occur because of the extremes of rotational forces at the knee.

Better breaststrokers are normally those with a great deal of flexibility at the hip, knees and low back. A common cause of knee pain is the low back - referred pain originating lumbar joint and ves. Knee pain can also be referred from the hip and other pelvic areas. It follows that if you experience pain in the knees during or after breaststroke, the cause may not necessarily be the stroke or the way you perform it.

If the kick regularly gives you pain, consult the coach. A physiotherapist will be able to further analyse the nature of any problems involved.

Stretches to hips, low back, hamstrings and the broad tough ligament on the outside of the thigh (the ilio-tibial band) will help.

Those who have excess rotational and sideways movements at the knee (accessory movements)



The
Swimming
Physio

may experience pain due to those movements being exaggerated during the kick. If you have this problem, or are recovering from an injury or surgery to the knee, it would be wise to avoid extended breaststroke kicking and consult your physiotherapist, doctor or surgeon. In many cases, those who have wobbly knees are able to strengthen the muscles that control the excess movement.

Many coaches favor and some of the more recent Olympians use a straighter, narrower power kicking action known as "the whip".

This involves internal rotation of the thighs during the initial power phase while pushing the feet outwards and downwards so the knees do not fully extend until they are almost together at the end of the stroke. The older "wedge" style involves

more hip movement forward (flexion) during recovery with the knees being extended and thrust outward in a wide arc, allowing the knees to be fully straightened as they proceeded out then brought together forcefully. This created a space or wedge of water which was thought to add propulsion.

In his book, *The Science of Swimming*, James Cousilman argues that breaststrokers' knee injuries can be avoided by 1. Stretching and appropriate strengthening 2. Kicking with only moderate effort during warm-up, and 3. Avoiding the early extension of the knees during the backward thrust of the feet, thus avoiding the lateral stress that may stretch the medial knee ligaments.

Ultimately, your pursuit of the least injurious and most effective style is a trial and error effort. You should try the different styles with the help of your coach. Anita Killimier's excellent book, *Mastering Swimming*, has illustrations and further information on alternative breaststroke kicking styles.

- GEOFF FISHER

Continued from page 5.

Ocean View Parades ...

I'm sure there are some, many even, who secretly yearn to join in a swim in the moat at the National Gallery. No Lanes. No ropes. To paddle with the sculptures of Deb Halprin and Geoff Bartlett, the red gum guardians facing away, distracted. But who, then, would ever be satisfied with the State Swimming Centre? And, of course, prohibiting signs exploit our inhibitions and we walk down St Kilda Rd dry. But still, like Ishmael in *Moby Dick*, we are all, irresistibly, drawn to water.

It is this affinity, this attraction, that Charles Sprawson explores in *Haunts of the Black Masseur: The Swimmer as Hero*. It embraces the sensuality of swimming, only part of which is the fact that, even racing, we are but several grams from naked. It is a psychological document studying the force of the mystical attraction to the element that so often becomes obsessive. The book is part history and looks at waters and swimmers from the ancient to the modern. It honors the Greeks and Romans, Captain Webb who first swam the Channel, Swinburn and Byron, Kellermann, Weissmuller, Fraser and Rose.

"I was drawn to the determined performance of Rose, poised and smooth, slender, seeming less strong, flanked by two rugged and uncompromising competitors, a David among Goliaths. I admired too the softness of his name, his cool intelligence, the quiet control he seemed to exert from the start, his graceful, easy style ..."

We go to training together, but we train individually, much of this is done within our heads, immersed and focussed. We race alone.

Here, then are two books to read between events. Robert Drewe ed.

The Picador Book of the Beach, Pan Macmillan 1993. rrp. \$16.95. Charles Sprawson. *Haunts of the Black Masseur: The Swimmer as Hero*, Jonathon Cape 1992. rrp. \$13.

***Herbert Orenstein is a member of Power Points.**



Don't use age old excuse

In my practice, I treat a number of athletes from all sports. There are many reasons why an athlete has injured him or herself, but a recurring answer seems to be "I'm getting older" or "age is catching up with me".

Well, all know we are not getting younger, but I hate to think age is being used as an excuse.

Generally, I would say that those who didn't do well in their event had set their goals too high, were not mentally prepared for the event, or didn't do the right training. Age didn't cause their slower time.

Injury can occur because of trauma or poor or ineffective technique. Although, as we get older our recovery time is a bit slower, age didn't cause the injury.

With exercise, as we get older, we can still build muscle strength and en-



Body
talk

durance. There are people aged 40-something out there who suddenly decide to change their lifestyle - they lose weight and, with exercise, start to build muscle and look better than they did when they were 30.

Exercise helps the capillaries (microscopic blood vessels) to dilate and multiply, which allows for better delivery of oxygen and other nutrients to the muscles. We also lower our resting heart rate, which allows increased diastolic (relaxation) time, resulting in improved coronary blood flow.

Osteoporosis can be combated by exercise because of the beneficial effects on bone mass and bone density. Exercise also improves joint mobility.

Most of the physical changes occur because of disuse rather than ageing, so the adage - if you don't use it, you lose it - is spot on.

As we all know, swimming as exercise is great because it is relatively injury free, so it's perfect for us ageing members of the population.

Try to shout yourself a massage when you feel like you are not as flexible, or seek advice if you have an injury. Please don't leave an injury and then say "age is catching up with me".

Fortunately, one of the perks of ageing is being able to join AUSSI - isn't it?

- GRAEME DE GOLDI



Breaststroke



Stroke Technique—Key Points From Kathy McKee

1. "Fast hands and fast feet"
2. Scull out, scull in (press out, press in)
3. Pull with hands not elbows
4. Hands press wide
5. Acceleration of the squeeze with the hands
6. Hands and elbows keep in front of body
7. Eyes looking below hands in final recovery (keep head still)
8. Power surge up with arms and then kick forward
9. Try to get as much distance per stroke
10. Finish kick and lift heels. Make sure the kick is closed (heels to hips)
11. On underwater pull, the arms coming up close to the body when returning to stream lining position
12. Ends and middle (see explanation under butterfly)
13. Fully extend (head will go under)
14. Maintain the same technique and tempo



Sculling Drills:

Kathy McKee

Coordination drill—the right arm pulls and the left leg kicks while the left arm holds the right leg.

Sculling progression drill. First, scull vertically. Next, scull on stomach with hands in front, starting narrow, then wider. Still on stomach, and with the elbows up and forward, scull hands in and out quickly and underneath the chin (windshield wipers).

Dan Patton

Head sculls. Scull in front of your head toward your feet. This works on out-sweep.

Sherwood Watts

Still Sculling. Single arm pull, stationary sculling.

Tom Himes

Catch drill. Swimmer swims with head up and normal kick. Swimmer makes small sculling motion with forearms, wrist and hands. Emphasize the "catch" at the beginning of the stroke.

Arm Recovery Drills:

Brent Rutemiller

Elbow squeeze drill. Swim 25s concentrating on squeezing the elbows together in front of your chest while shrugging your shoulders in order to lift the body higher out of the water and to speed up the recovery.

Kathy McKee

Cross over drill—as hands and arms accelerate and recover, cross right arm over left, then left over right.

Breaststroke pull with body—no up and down movement with hip.

Dan Patton

Half pull breaststroke—swimmers do a half pull so that their arms stay in front and are fast from the end of the out-sweep to the end of the recovery.

Sherwood Watts

Hand Speed Drill—hands laced together, fully extended, bounce hands off chest and recover as quickly as possible. Three cycles with a kick and two-count glide; fourth cycle, pull-kick glide two-count (work hand speed).

Tom Himes

Stroke count drill. Counting strokes per lap tends to help the swimmers concentrate on reaching and making a full recovery before starting the next stroke. Tell swimmers to do a specific number of strokes per lap.

Underwater Pulling Drills:

Dan Patton

3 High-3 Long drill—swimmers take three strokes working the in-sweep to get "high." Then they take three strokes long to stretch out.

Kathy McKee

Three strokes regular, three strokes regular underwater.

Tom Himes

Double arm pulls. Two right hand only pulls (left arm straight out), then two full breaststrokes, then two left hand only pulls (right arm straight out).

Brent Rutemiller

Alternate arm pulls. Swim 25s concentrating on pulling with one hand only while the other hand is outstretched. Swimmer should glide as much as possible, stretch, catch and accelerate. Repeat with other hand.

Breaststroke

Kicking Drills:

Bill Thomson

Hands at side drill. Kick with hands at side to get heels up; place bouy between groin area to keep knees up; underwater kicking. Try to touch the sides of each foot at the end of recovery and before the power phase to promote flexibility.

Tom Himes

Face Kick—Swimmer kicks with head out of water and arms to the side.

Brent Rutemiller

Hands locked drill. Ask the swimmer to kick breaststroke with hands locked behind back. Concentrate on lifting the heels together all the way up to the hips until they touch the hands. Keep the knees inside the hip width during recovery. Repeat with the board and without hands locked behind back.

Kathy McKee

Arms at side drill. Kick with arms at side, hands on hips. After taking a breath, lower head below water and pull heels to hands and keep hips up.

Vertical kick. Vertical kick holding the wall

Dan Patton

Kick on back drill—swimmers will quickly realize it if they are pulling their knees up under instead of pulling their feet to their bottoms.

Streamlining Drills:

Kathy McKee

Two kicks, one pull drill. In streamline position, swimmers must remain underwater for two kicks.

Tom Himes

No arms drill. Kick breaststroke without boards with arms/head in a streamlining position. At all turns take three kicks underwater, still keeping arms/head/body in a streamlining position.

Bill Thompson

Shadow swim. Swim underwater; Shadow swim on deck or watch shadow on the bottom of the pool; dolphin breasts with fins; double or triple kicks (two or more kicks followed with swimming one or two cycles).

Dan Patton

1 pull, 2 kicks drill—the swimmers do 2 kicks per pull and must stay streamline during the second kick.

Sherwood Watts

Lunge drill—rebound off wall, push off wall with hands/feet toward surface. Kick-pull-kick to make it back to wall. Lunge contests.

Pull-Out Drills:

Tom Himes

Pull-out progression.

1. Push off wall in streamline position and glide to surface.
2. Push off wall, pull and glide to surface.
3. Push off wall, pull, kick and glide to surface.
4. Push off wall, pull, kick, and then take a second pull exploding out of the water as high as you can. Then repeat the four steps.

Kathy McKee

Step Drill. In teaching, I break the pull-out into steps. Then I do sets with multiple pull-outs. For example, 2 X 25 breaststroke. First, three pull-outs. Second, two pull-outs. Third, one pull-out.

Sherwood Watts

25's under water.

Dan Patton

Multiples drill. Double or Triple pullouts per 25—the swimmers do two or three pullouts without breaking the surface per 25. Done as 25s, 50s or as part of longer sets (400 or up).

Bill Thompson

Two pull-outs per push-off; same with kick. Underwater, full pull-out on back X 25s

Stroke Rate/Breathing/Timing:

Brent Rutemiller

Toe touch drill. Swim 25s concentrating on pull, kick, glide. Swimmer's should not press outside shoulder width until after his/her feet have touched and the toes are pointed.

Dan Patton

Stretch out drills. Count your strokes so that the swimmers are "stretching out" their strokes. It is important that they understand how important distance per stroke is in breaststroke and the timing.

Sherwood Watts

Rate drills. Three kick breaststroke, three count glide, good hips and dolphin before next series of three kicks. Count strokes per 25, descend stroke rate.

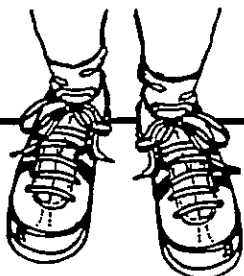
Tom Himes

Timing drill. Swimmers take full breaststroke cycle and take 2-3 second glide in streamline position (2-4 50s). Then repeat the same and cut the glide down to 1-2 seconds. Then repeat the same swimming normal stroke.

Bill Thompson

Tethered drill. Tethered swimming to practice rate. Example: take 86 strokes in goal time for 200 breaststroke. Example: 43 in one minute, 22 in 30 seconds.

Just a reminder that one of the AUSSI Products available from the National Office (and probably most 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.



ARE YOU "ALLERGIC" TO THE POOL ?

BY PETER GAMBACCINI

Everybody in the office knows when Brad Shopp's been swimming. It's not his calm, cheerful post-workout demeanor that's the tip-off; it's his sneezing fits. Shopp, a lobbyist at Pennsylvania's state legislature in Harrisburg, loves to swim. Unfortunately, swimming — or rather, the chlorine in the water — doesn't love him.

While chlorine is killing substances, it also can be damaging human tissue.

"For the first couple of days after swimming, I'm sneezing hard, six or seven times in a row," Shopp complains. "My nose is running, my eyes are itching. The worst thing is that I can't sleep at night because I can't breathe."

To combat his stuffiness, Shopp first tried the steam-and-sauna method to decongest clogged nasal passages. It didn't work. Nose

plugs didn't help either, and an expensive, specially developed nose spray made little difference. Ultimately, Shopp discovered that he found relief only when he stopped swimming. "I resigned myself to the fact that I live with it or I don't swim," he says. "I've lived with it."

Shopp is not alone in his predicament. A 31-year-old New York City triathlete has similar problems when he swims. "My skin dries out; my eyes start to water and I'm constantly blowing my nose. People who don't know me think I'm snorting coke," he says ruefully. "I think I have an allergy to chlorine, but doctors say there's no such thing. They say it's nasal rhinitis."

If there is no such thing, then why do so many pool swimmers have allergic symptoms — like congestion, sneezing, skin rash and itchy eyes?

William Berger, a consulting allergist to the United States Swimming Federation, reports that allergies to chlorine are not common but that "irritant reactions" — which mimic and feel like allergies — are. Long Island dermatolo-

Reprinted with permission from Fitness Swimmer September 1993.

A BOOK REVIEW - THE NEW SCIENCE OF SWIMMING

James E. Councilman and Brian E. Councilman

'Doc' Councilman has been for 25 years the author of the "bible" - The Science of Swimming. His new book is revised and rewritten with the latest theories of sports science.

This book covers mechanical principles involved in swimming, it analyses the techniques of the four strokes, starts, turns and relay exchanges. As well, it covers organising a season's program, stress and adaptation, classification, and endurance, speed and psychological preparation.

The chapter on training with the experts gives an insight into how the top U.S.A. coaches operate - how they divide their squads up, how they break up the season into phases.

James Councilman is an authority on everything from exercise, physiology to coaching philosophy. 'Doc' has a Masters Degree and a Ph. D and so is well qualified to write - his son, Brian, has a Science Degree in Physical Education and is working towards his Master's Degree.

If you are at all interested in improving your swimming knowledge this is a book you MUST buy and read and read again.

Any coach who claims to be up-to-date with his/her reading should have this book in their library.

Peter Ruddock
Level 3 National Accredited Coach

ODE FOR A MASTER SWIMMER

Courtesy of Wave Lengths

*I'd like to swim in the Olympics
And then work for CTV
And advertise for lots of dough
For things like Red Rose Tea*

*But I have this problem with my kick
And I've buggered up my back
And our coach makes us do the Fly
Which really makes me sick*

*So I'll just swim in Masters
For the Ebbside swimming team
And stick to Freestyle, its the milk
But Breaststroke is the cream*

*I love to swim the Breaststroke
I do it rather well
I'd practice it in bed at night
But my wife has said 'Like hell' !*

*So I have to go to Beban Park
And swim in chlorine soup
In a public pool with lots of hair
And bits of babies poop*

*I don't begrudge the monthly fee
For going to the pool
Because women all love Breaststroke
It's a paradise for me*

*And when I need a boost
For my flagging, aging corpus
And groan and moan, and pine and
and whine
After swimming comme la porpoise*

*I only have to look around
And feast my weary eyes
Through all the worn out bathing
suits
And wildly thrashing thighs*

*For then I know why I still go
It's not the thought of winning
No, what I really go for
Is the social side of swimming*

by Wayne Jones

gist Dorian Gravenese explains that "there really isn't a true allergy [to chlorine], but it is an irritant dermatitis with allergic symptoms."

Same difference, for the sufferer. Whatever you call it, the fact remains that histamines released by body tissues during allergic reactions are likewise unleashed to battle the effects of chlorine.

Alison Osinski, director of Aquatic Consulting Services in San Diego, says of chlorine, "It's a poison; it's a bleach used to whiten collars, remember. Some people are more sensitive to it than others, but virtually every swimmer has some cells that react adversely to immersion in chlorine."

So why use chlorine at all? Well, it does have its uses. Originally used as a component in gas warfare during the World Wars, it was introduced to pools and public drinking supplies decades ago in order to kill things — specifically bacteria and algae. After experiencing major influenza and polio epidemics during the beginning of this century, many people found chlorine a reassuring solution — not to mention an inexpensive and easily accessible one — when diving into a pool shared with strangers.

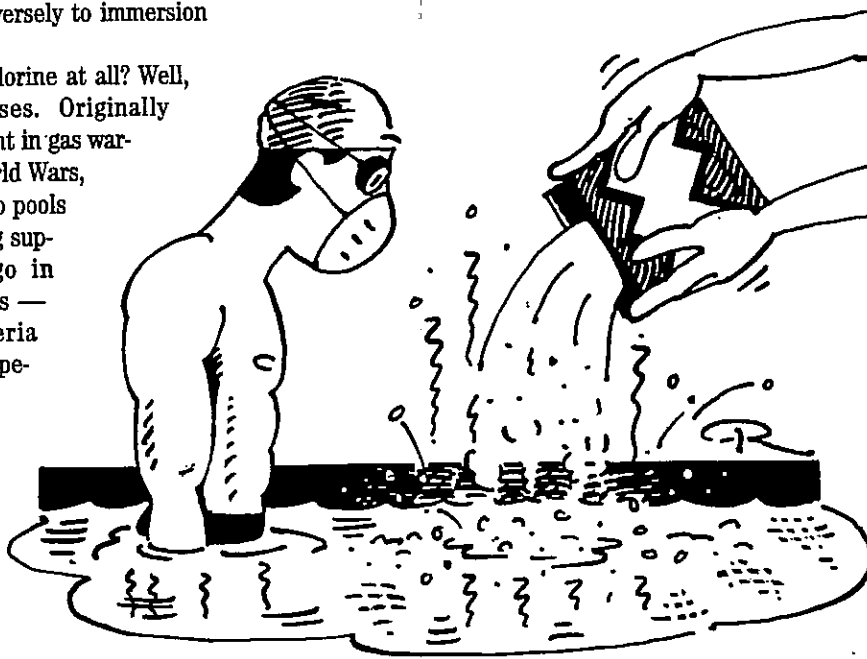
Unfortunately, while chlorine is killing harmful substances, it also can be damaging human tissue. Mucous membranes, for example, can become so parched by chlorine that nose hairs — important in filtering out irritants — thin noticeably. As a consequence of this membrane destruction, any swimmer who does have pre-existing allergies is now likely to experience heightened adverse reactions.

EYEING THE PROBLEMS

"Let's put it this way, if you spend

enough time in chlorine and your eyes don't itch, then you're Superhuman," is the opinion of one New York Masters swimmer and health club consultant.

New York ophthalmologist David Abramson was a swimmer at Harvard who experienced vision problems after swimming in chlorinated pools. He would have to eat and then sleep before he could see clearly enough to study. The problem lay in injured corneas. "If you're polling 20 swimmers, 15 of them will have swollen corneas," Abramson reports. Fortunately, the corneas usually repair themselves within a few hours and



damage is not cumulative.

"I do think there are people who are allergic to chlorine," asserts Abramson. "[It's] an extremely irritating chemical. But almost all of the reactions concerning eyes are *not* from chlorine. On a list of factors, it would be fifth. The problem is that fresh water (e.g. pool water) has no salt. Without it, the cornea 'swells like a sponge.' That is the reason people experience haloes, blurriness and a scratchy sensation."

Another leading visual hazard is hemorrhagic conjunctivitis — bloodshot eyes caused by burst blood vessels.

RESPIRATORY TROUBLE

Aggravated respiratory problems comprise another category of chlorine's negative side effects. An unstable substance, chlorine tends to dissipate. Lighter than water but heavier than air, it can hover a few inches above the pool's surface in an indoor facility. When chlorine combines with compounds such as urine and sweat, it forms chloramines, which are the source of respiratory ailments in swimmers who breathe them in when they lift their heads six inches above the surface.

Athletes who train for hours each day are breathing "toxic gases,"

asserts Gunner Lyslo, whose Illinois-based firm LiquiTech markets an alternative to chlorine.

Lyslo, referring to college swimmers forced to use inhalers all winter due to negative reactions to chlorine, suggests that the problem is obvious if, blindfolded, you can find the pool by smell alone.

SKIN DISORDERS

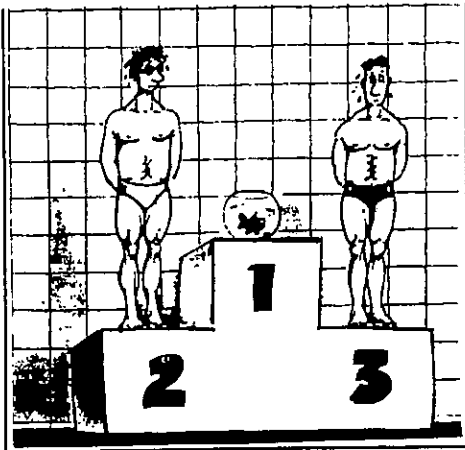
Another common complaint — "winter itch" — stems from chlorine seeping into skin cells and sucking the liquid out of them. This results in severely dry and cracked skin, and sometimes even a condition akin to ichthyosis or "fish skin." In some instances, the vagina and scrotum can be affected. "The epidermis of the human body *ingests* things," laments one health consultant. "How much chlorine can we ingest?"

Plenty. And that's part of the problem. The body tries to eliminate toxins, explains Adam Trombley, a climatologist and physiologist at the Institute of Advanced Studies in Aspen, Colorado. Chlorine, however, can be stored in fatty

There is a certain blend of courage, integrity, character and principle which has no satisfactory dictionary name but has been called different things at different times in different countries. Our Australian name for it is 'guts'.

tissues to accumulate in the body over time.

Trombley cites 30-year-old studies suggesting a link between chlorine and arteriosclerosis. If stored in blood, chlorine reacts with cholesterol to clog veins, he says. Moreover, continual contact with chlorine "distresses the body chronically," adds the former diver who was forced to stop diving in his teens because of respiratory and congestion problems.



ANTIDOTES AND ALTERNATIVES

There is some relief, however. The best way to combat chlorine's ravages is to take preventative action. Don't wallow in chlorine any longer than necessary. And don't imagine that because you've been awash in pool water you can get away without a shower. Gravenese suggests cleaning the chlorine off thoroughly with soap and water as soon as you leave the pool, making sure to flush your eyes, nose and ears as well.

Applying generous amounts of skin lotion immediately after showering will also help. To protect hair, wear a bathing cap and use a moisturizing conditioner. For best results, apply a layer of conditioner on dry hair *before* swimming to coat and shield hair from the drying effects of chlorine. Just make sure to wash off thoroughly when showering to avoid a dulling buildup. (See "Saving Your Hair & Skin," June 1993.)

Common eye problems can be solved easily by using goggles, according to Abramson. If your eyes have already been damaged, you might find artificial tear drops helpful. They can provide some relief whenever your eyes become itchy or bloodshot.

When it comes to toxicity, good ventilation is essential, as is careful monitoring of chlorine and chloramine levels. (See "Chlorine: Why We Need It, How It Works" December 1992.)

Chlorine should be one part per million in water, although some municipalities have standards of 0.5 or 1.5 parts per million. Claims of a possible link between chlorine and kidney and liver cancers implied by one manufacturer of an alternative cleaning system hold even less water, according to a dubious Osinski. "You're not really going to be *drinking* it in swimming pools," she counters. "That's not really a problem." Unless you're going to drink enormous quantities of water with an abnormally high concentration of chlorine, you shouldn't be even remotely concerned about this.

Trombley, concerned about the effects of chlorine monoxide on the stratosphere, would like to eliminate the chlorine industry entirely. Unfortunately, he feels there are powerful private interests at work preventing this from happening any time soon. "This industry is enormously profitable, an offshoot of petroleum refining," he says. "It is incredibly politically entrenched and has been for decades."

There is some hope on the horizon, however. Alternate sanitation systems are being devised. One method, for instance, uses electric ions to kill bacteria. *Tarn-Pure*, from Lyslo's *LiquiTech*, and *Vision*, from *Fountainhead Technologies* of Pawtucket, Rhode Island, use silver and copper ions to reduce odors associated with chloramines and to maintain pH levels more successfully without severe peaks and lows.

The University of Texas, a powerhouse swimming school, now uses the silver and copper method. "We don't have a very good ventilating system for the area above the pool," says Don Watson, director of the university's swim center. "As a result, athletes got lung infections. A high percentage of swimmers just went around hacking." It got so bad the state legislature granted U.T. a special dispensation to reduce its chlorine content to 0.5 per million.

Such edicts are handed out sparingly. When it comes to pools, U.S. law requires some amount of chlorine. If you're hacking, wheezing or scratching, tell it to your elected representatives. Maybe they'll enact a legal ban against chlorine so you won't suffer from those allergies — or whatever you want to call them.

Peter Gambaccini is a freelance writer who has decided to stick to the safety of his daily runs in New York City's Central Park.

W i s e W o r d s

"With an explosion of products and competitors, the consumer, individual or commercial, is overwhelmed by choices. Your distinction had best stand out - unequivocally."
Tom Peters, Thriving On Chaos.

"Chance favours only the mind that is prepared."
Louis Pasteur.

"Australian management must respond by tapping Australian 'mateship', and growing it in the organisation."
John Blackmore, The Quality Solution.

"Whatever you do, don't hide behind the rule book. Nothing upsets a customer more than having someone quote the rule book at him or her."
Jack Collis, Your Business Is Your Customer.

AWARD BADGES

Have you forgotten about Award Badges? These are available to all members via their Clubs who can purchase them from their Branches.

Award Badges are available for all strokes and distances listed under Rule 16. (Note that 1/2 hour and 3/4 hour swims are not "Award" swims, so there are no badges.)

Recently we have come to realise that ribbons or 'flashes' are not at all popular with members, so have recently placed an order with J & J Cash for another supply of Award Badges to replace the flashes.

Please alert your members, especially your newer members, that Award Badges are NOW AVAILABLE.

Just what you've been waiting for: The example of the made-for-TV Winter Olympics has inspired new event: *Downhill swimming*, which of course would be judged, increasing the need for more officials, and could be held in the numerous slides now being added to most facilities... Canada would be a world leader, at least during the initial phase, before drug use becomes rampant.

The best way to combat chlorine's ravages is to take preventative action.

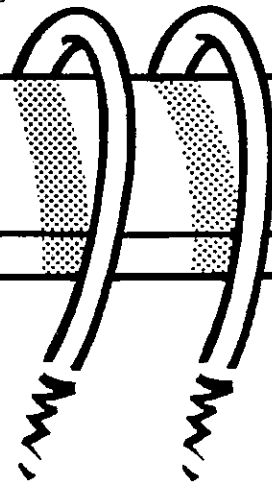


A New Swim Paradigm:

Swimmers Generate Propulsion From The Hips

Training and Technique

by Bob Prichard
Somax Posture & Sports



My co-workers and I continue to improve swimming performance far beyond conventional training methods because we see swimming and swimmers completely differently. We base our work with swimmers on new swim paradigms.

A paradigm is a basic model or assumption about reality. People believe a paradigm to be so obviously true that it is not only unquestioned, it is often unstated.

The advantage of a paradigm is that it simplifies a very complex world. The drawback to a paradigm is that it determines not only what people see, it prevents them from seeing what falls outside of that paradigm.

Two paradigms from the past are that the earth is flat and the sun circles around the earth. We laugh now at the naivete of these paradigms, forgetting that thousands of people, no less intelligent than you or me, spent thousands of years diligently trying to understand the world while believing these paradigms.

Paradigms change when new evidence mounts that cannot be explained by the old paradigms. This evidence is usually discovered by new technology that enables us to see events invisible to the unaided eye. A good example is the telescope. It helped to overturn the earth-centered paradigm of the universe.

The Old Swim Paradigms

In swimming, an old Paradigm states that "all swimmers propel themselves with their arms." This seems so painfully obvious that to say anything else appears to be ridiculous. Most of the instruction, training and research in swimming is based on this paradigm, including the work of Counsilman which was seen as revolutionary at the time but was basically a sophisticated extension of this paradigm.

Another paradigm states that "swimmers consist of muscle and bone guided by a nervous system." Most coaching, training and research is based on this paradigm of swimmers bodies. Both of these paradigms are inadequate. They also are the biggest hindrance to progress in swimming performance, training and research.

The New Paradigms

The new swim paradigm states that "elite swimmers propel themselves with the muscles of the hips and trunk"—not the arms and shoulders.

The new paradigm about swimmers' bodies states that

"swimmers consist primarily of connective tissue." This tissue permanently and progressively records stress and training errors, determining much of a swimmer's mechanics, efficiency and performance.

In the balance of this article, we will tell you how we discovered these new paradigms, the evidence that supports them and the phenomenal improvement in performance subsequent to implementing these new paradigms.

How We Discovered The New Swim Paradigms

In 1986, Nort Thornton of Cal Berkeley invited us to work with his team. Thornton was impressed by the work we had done showing that arm motion caused leg injuries in runners.

Before we worked with his swimmers, we wanted to understand swim mechanics. Thornton graciously supplied us with underwater videotapes of the best American freestylers.

Having already videotaped and analyzed more than 4,500 runners, we thought that we could understand swim mechanics in a couple of months.

We could not have been more mistaken.

Every freestyler we looked at was unique. Six-beat kick, two-beat kick, two-beat cross-over kick, swimming flat, rolling

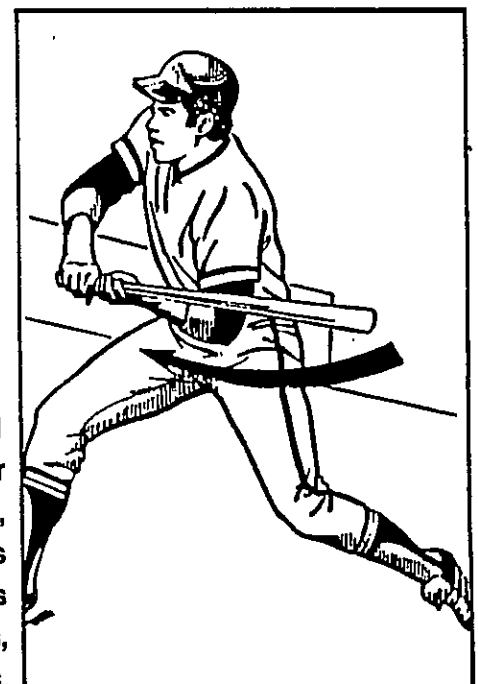


Illustration 1
Like a hitter
in baseball,
a swimmer's
power comes
from his hips,
not his arms.

the hips—everyone was different.

We went back to the tapes—running them over and over again, frame by frame. Twenty hours a week, month after month. Finally it came to us—a year and a half after we accepted Thornton's invitation: "Elite swimmers swim with their hips." The arms are just the means for delivering that power to the water.

In retrospect, I wonder why it took us so long. After all, we had spent thousands of hours analyzing golfers, tennis players, baseball batters and pitchers. We knew that increasing the strength, speed, range and timing of their hip rotation was the surest way to improve performance and reduce injury.

The reason it took us so long is that we also believed the old paradigm that swimmers swim with their arms—just as we used to believe that tennis, golf and baseball are upper body sports.

Analogy — A Help To Understanding

It is not easy to shed an old paradigm and adopt a new one. Generally speaking, the more successful you have been with the old paradigms, the harder it will be to accept the new ones.

The transition will be easier when you see that the new paradigms are really no different from what you believe to be true in other areas of life. (By the way, I am not proposing that we throw out what we have learned about swimming, just what we believe about swimming.)

The first analogy is that of a boat. In the old days, boats were propelled by oars and paddlewheels. It's not surprising that we see the arms as oars and the hands as paddles because it makes our understanding about water propulsion consistent with what we observe with boats.

For both oars and paddlewheels, the source of power is near the object moving in the water and the movement or rotation of the power unit is in the same plane as the direction of the boat (Illustrations 2 and 3a).

So it is with the old swimming paradigm: the power units (the muscles of the arm and shoulders) are near the object mov-



Direction of Travel
→

Illustration 2: The rower is pulling just as we say a swimmer pulls—in the same plane as his direction of travel.

ing in the water (the arms) and they contract in the same plane as the body travels.

Obviously, you can propel a boat with oars and paddlewheels, just as you can propel yourself with your arms. You just can't go very fast.

In 1794, Lyttleton invented the propeller. In 1845, the paddlewheel plans for the "Great Britain" were scrapped in favor of a propeller and the first propeller-driven ship crossed the Atlantic. The propeller is radically different from the oar and paddlewheel—and radically faster. The propeller rotates in a plane perpendicular to the direction of travel of the boat, the power unit is usually far removed from the propeller blades and the power unit also rotates in a plane perpendicular to the direction of the boat (Illustration 3b).

Some believe that Counsilman, in "The Science of Swimming" 1968, radically changed the way we look at swimming. While he more accurately described the hand and arm motion of elite swimmers, explaining propulsion in terms of lift and drag, rather than pull and push, he still left undisturbed the basic paradigm; all swimmers swim with their arms.

We dispute this paradigm. The elite swimmer is like a propeller driven boat, not one propelled by oars or paddlewheel. The arms and hands are the propeller. The engine is not the shoulders, but the hips. As with a propeller-driven boat, the engine (the hip and trunk muscles) is distant from the propeller blade (the arms and hands) and rotates in a plane perpendicular to the direction of travel.

To increase the speed of a propeller-driven boat, you don't increase the strength of the propeller (although it has to be strong enough to handle forces generated by the engine)—you increase the power and speed of the engine.

Are swimmers trained to increase the power and speed of their engine, the hips?

No. Because everyone believes that all swimmers swim with their arms.

Some coaches pay lip service to

Illustration 3a

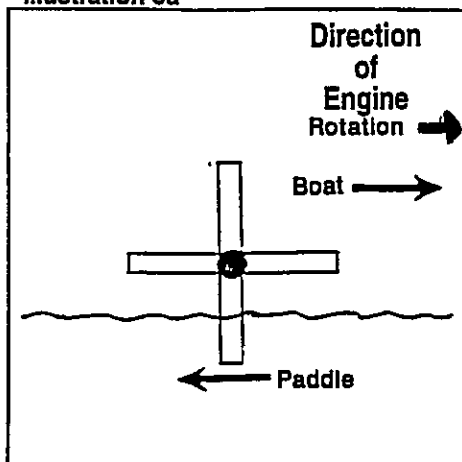
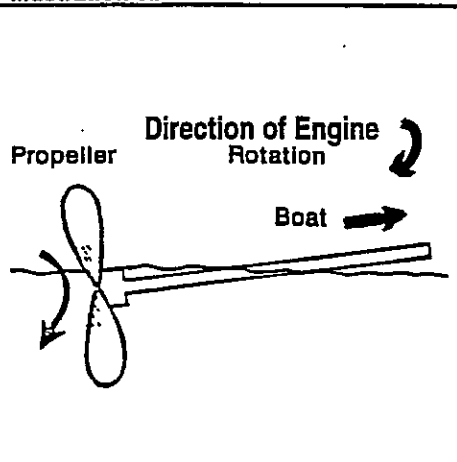


Illustration 3b



The good athletes will sometimes win, and sometimes will be losing.
But he will win without a boast, and lose without excusing.

body roll, but we concentrate almost exclusively on increasing the speed and power of the hips and get phenomenal improvement in stroke count and swimming speed, eliminating arm and shoulder injuries.

The second analogy is with three other sports. Biomechanists know that the power in boxing, golf, tennis and baseball comes from hip rotation—otherwise these sports could be played sitting down.

A batter steps up to the plate (Illustration 1). The ball approaches. He rotates his hips first, then swings the bat. He is using the large, powerful muscles of his hips and trunk to accelerate the bat. Imagine taking the hips out of the picture by having the batter sit down. Could he generate the power he does while standing and rotating his hips? Obviously not.

Since all other sports that require high hand speed are based on hip rotation, isn't it reasonable to expect that swimming would be the same?

The only reason to think swimming is different is because you believe the old paradigm.

Are you training your swimmer's strongest muscles (the hips) or over-training the smaller muscles of the arms and shoulders? Are your swimmers consciously using their hips or just dragging them through the water?

Logically, any sport paradigm that ignores or pays lip service to the largest, strongest muscles in the body and concentrates on muscles one-third their strength and size (the arms) is a poor description of reality—easily on par with believing the earth is the center of the universe.

The Evidence And Confirmation Of The New Paradigm

Logic and analogy are not enough to discard an old paradigm—especially one that is thousands of years old. You need evidence to contradict the old paradigm.

The first evidence supporting the new paradigm was the massive improvement we saw in our swimmers as we increased the range, strength, speed and timing of their hip rotation.

The second evidence came from an outside source—Nort Thornton. Thornton, at our request, measured the arm power

of his swimmers. Matt Biondi had 10 percent less power in his arms than some of the other sprinters on the Cal team. If swimmers really did swim with their arms, why was Matt so much faster than these stronger sprinters? Obviously his power was not coming just from his arms.

Thirdly, at Thornton's request, we analyzed Matt's stroke shortly before the 1988 Olympic trials. Matt was no slouch as a swimmer, holding the fastest times in 100 meters, but something had happened to him that summer and he wasn't swimming well.

We taped Matt's stroke underwater and measured his hip rotation. It was one-third less on one side than the other. We worked with Matt for two weeks to increase the range, strength, timing and speed of his hip rotation. Weeks later he set a new world record at Austin and went on to win seven

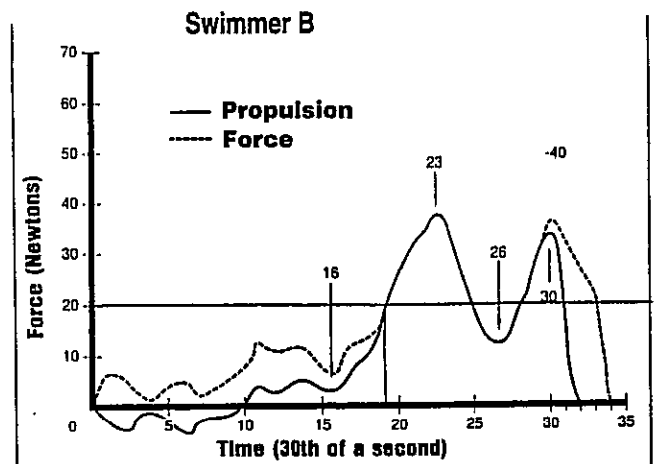
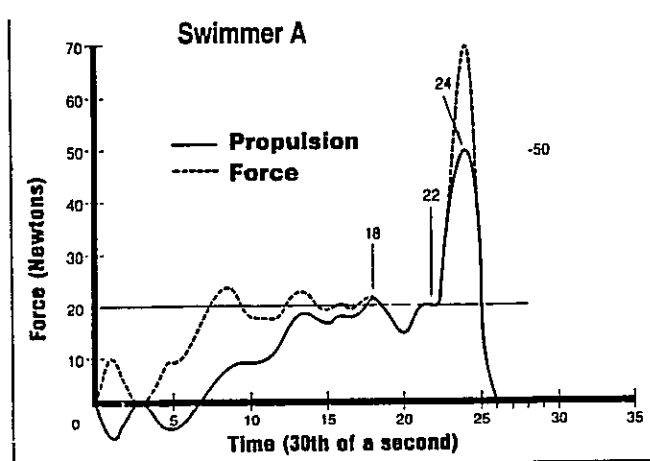
medals at Seoul.

The fourth verification of the new paradigm came when we analyzed more than a dozen computer-generated analyses of the force out put of elite swimmers' hands. We have reproduced two of those analyses here of swimmers A and B, two elite sprinters (Illustration 4).

You can see that both of these swimmers generate negative propulsive force when their hands first enter the water. Swimmer A's stroke is only 26/30ths of a second long, and he does not generate propulsive force above 20 newtons until frame 22 (these analyses were made from video tape—so each number on the lower axis represents 1/30th of a second), 85 percent of the way through his stroke. He swam fast because he generated so much propulsive force (48 newtons) in just the last 15 percent of his stroke.

Swimmer B has a very different stroke. First, his stroke is 34/30ths of a second, 31 percent longer. Secondly, he starts generating power above 20 newtons at frame 19, 56 percent of the way through his stroke. The amount of time above 20 newtons is 333 percent more than B (10/30th of a second for A). When I looked at these graphs, I saw, as you do, that these are two very different strokes. But I was interested not only in what made them unique, but also what they had in common: at a certain point in the stroke cycle, the force out put rises sharply above 20 newtons. What was happening just prior to this point (frame 22 on A, and frame 19 on B)?

Illustration 4



SAFETY IN THE POOL

As swimmers we are all placing ourselves in a situation of risk. The more we know about swimming, and the fitter we get, the less the risk. But can you say that the person in front of you at the pool has the same degree of safety? You may be the one who is required to help him/her in an emergency!

Continued on page 19.

Training and Technique

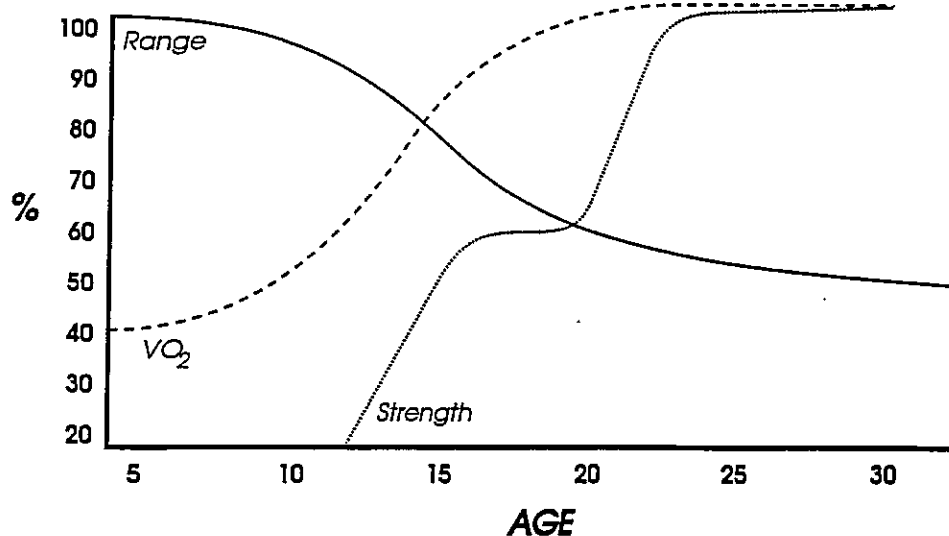


Illustration 5. This graph shows the loss of flexibility in swimmers from age 5 to 30. Swimmers tend to lose at least 50 percent of one or more ranges they need to swim efficiently by the time they reach their peak in strength and endurance.

I went back to the tapes from which these analyses were made. There was no commonality at all in the position of the arms: A was in his outswEEP, B was beginning his insweep.

But they did have one thing in common. In frame 18 for A and frame 16 for B, they started to rotate their hips. In other words, just before they started generating large propulsive force in their hands they rotated their hips. They were whipping their arms through the water by rotating their hips. As far as I was concerned, this was the final nail in the coffin of the old paradigm. It was time to lay it to rest.

The New Body Paradigm

The other obstacle to progress is the old body paradigm—"swimmers consist of muscles and bones, guided by a nervous system."

In fact, every muscle, muscle fiber, bone, internal organ, nerve—even the whole body—is surrounded by a thin membrane of connective tissue. In reality, the body is a series of concentric, inter-connecting connective tissue tubes, filled with muscles and bones. The role of connective tissue in swimming cannot be underestimated. Connective tissue makes a permanent and worsening record of every training error in a swimmer's career. Here is how it works.

Whenever the muscles tense up because of injury, over-use or stress, small micro-fibers form between the adjacent tubes, binding them together to immobilize the area so it can heal. The micro-fibers prevent the muscles from stretching by

preventing them from sliding past each other. Unfortunately, after the muscles have healed, the micro-fibers not only don't go away—they accumulate as time goes by. It is the accumulation of those micro-fibers that make us stiffer as we get older. Swimmers can lose 50 percent of one or more ranges they need for swimming (Illustration 5), just as they are reaching their peak strength and endurance. Since these micro-fibers are between the muscles, they cannot be released through stretching.

We have developed a non-invasive procedure (Micro-fiber Reduction or MR) to release the micro-fibers, improving flexibility far beyond what stretching alone can do. (See Illustration 7 for an example of micro-fiber reduction.)

Connective tissue is important to swimming because the connective tissue determines flexibility. Flexibility in some 20 ranges determines a swimmer's technique—and therefore his mechanical efficiency.

Unfortunately, many swim training drills permanently reduce flexibility in swimmers by over-using muscles and creating micro-fibers. Pull-buoys, hand paddles, free weights, high-intensity, long-yardage workouts with poor mechanics—all can reduce shoulder flexibility. Kick boards train a swimmer to not rotate his hips. This insures that a swimmer is more likely to start his stroke with his arm muscles and to use his hip muscles much later—if at all.

To explain, at entry the arm has to hang out in front long enough to allow time for the hips to rotate first and then whip the arm through the insweep and outswEEP. If the shoulder is tight, the arm muscles will contract first, pulling the arm down early, producing a small insweep. The large powerful hip muscles will contribute only to the last 15 percent of the stroke at the end of the outswEEP—if they contribute anything at all.

It is as if a batter stepped up to the plate, swung his bat and

Category	Age	Event	Distance	Before	After	Imp.	%Imp.
Masters	35-40	Fly	200yd.	Nationally Ranked		5.15	3.4%
	51	Free	2 mile	63:31	55:08	8:23	13.1%
Senior	18	Free	100yd.	47.00	45.30	1.70	3.6%
Age Group	12	Free	50yd.	28.45	25.94	2.51	8.8%
		Back	50yd.	34.98	31.74	3.22	9.2%
		Breast	50yd.	36.50	32.99	3.51	9.6%
		Fly	50yd.	32.24	29.39	2.85	8.8%
		IM	100yd.	1:13.41	1:06.03	7.39	10.0%
		Free	100yd.	1:11.38	59.16	12.22	17.1%
		Back	100yd.	1:20.05	1:10.94	9.11	11.3%
		Breast	100yd.	1:25.68	1:13.99	15.67	18.3%

Illustration 6.

then turned his hips.

The more you swim this way, the more you will over-use your shoulder muscles. Micro-fibers will form and your shoulders will get stiffer. The stiffer they get, the more you will use your arms, etc. The result for many swimmers is poor mechanics and shoulder injury—not from over-use but from misusing their whole body.

The Importance Of Specific Ranges

While we were struggling to understand swimming mechanics by studying the underwater tapes provided by Thornton, we spent some of that time measuring the ranges

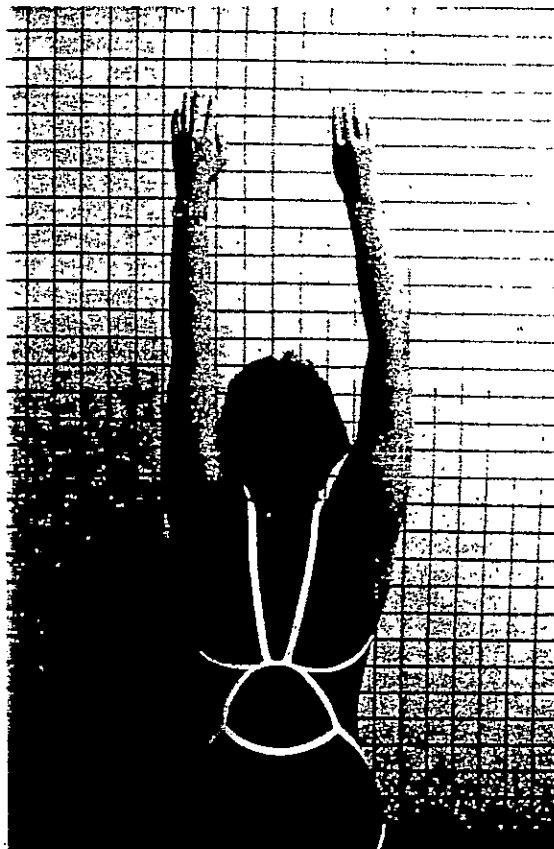
the swimmers' joints went through under water. Not to our surprise, (because we had found this in other sports) almost none of the standard swimming stretches stretched the joints in the ranges they went through under water. In other words, standard swimming stretches were useless.

For example, Illustration 8 is a common swim stretch for the shoulder. The arm is abducted, but it is also externally rotated (AER). If a swimmer actually used this range, he would enter the water little finger first (Illustration 10). But swimmers enter the water with the elbow high and the arm internally rotated (Illustration 11). To stretch this range, you need to do an entirely different stretch (Illustration 12), abduction with internal rotation (AIR). Many swimmers have 180 degrees of

Illustration 7. (Top) Stacia Goff, a junior swimmer, was experiencing excruciating pain when attempting to raise her arms above her head.

(Left) However, after one session with Bob Prichard who released micro-fibers under her shoulders, Goff could raise her arms much higher.

(Right) Then after another session, Goff could raise her arms high above her head.

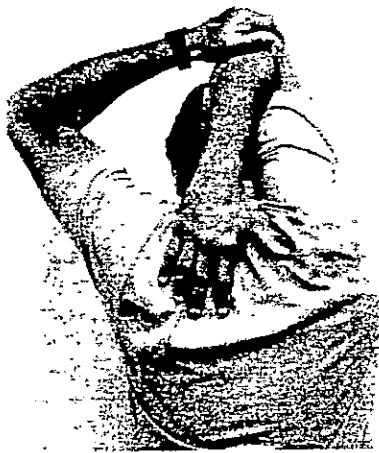


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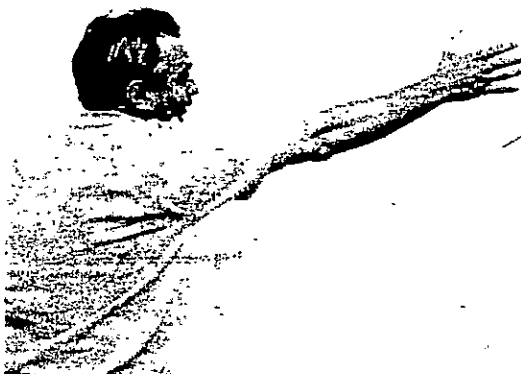
If you are the one called upon to help a swimmer in difficulty, do you know how? Can you move a person safely to safety? (Particularly if they had a suspected spinal injury.) Can you get a person out of the pool? Do you know Expired Air Resuscitation (EAR) or Cardio-Pulmonary Resuscitation (CPR) ? See over

Training and Technique

Illustration 8.



A. A common swim stretch is an abduction with external rotation (AER).



B. Unfortunately, it is only good for an elbow down, thumb up entry.



C. This is a normal entry, elbow up, thumb down.

AER, but less than 130 degrees of AIR. Stretching your AER will not help your AIR, or your entry.

Once we had measured the 20 or so ranges for each stroke, we started measuring these ranges on the Cal swimmers. You can guess what we found: the better the swimmer, the greater his flexibility in these ranges. Biondi, while having 10 percent less power in his arms, had 70 degrees more range in his shoulders than any other sprinter on the Cal team.

In another example, while doing research at the Olympic Training Center, we learned that Janet Evans had a VO2 max of only 56, yet she was beating swimmers with a VO2 max of 75-80, a cardiovascular capacity almost 50 percent greater than hers. An examination of the computer analysis of her stroke showed that she was not particularly efficient or powerful. What was the secret to her success?

We think we know. The prior year we measured her flexibility. Percentage-wise, she had the greatest range of motion in breathing of any swimmer we have measured. Increasing breathing range dramatically increases flow-rate so that a swimmer can take in air more quickly. Some of the most dramatic improvements in performance we have made came from increasing breathing range by releasing micro-fibers in the chest and abdomen.

Do swimmers stretch to improve their breathing range? Not at all. In fact, swimmers spend a lot of time doing sit-ups, which is an excellent way to reduce breathing range and performance, especially for middle and long distances.

Finally, we have evaluated many swim teams for flexibility. Just by measuring the swimmers' ranges and knowing only their event, we have repeatedly been able to tell their coaches what stroke problems they had—without even seeing them swim.

Performance— The Payoff Of The New Paradigms

Once we knew what the 20 or so ranges were for each



D. To improve the entry, you need an abduction with internal rotation (AIR) stretch.

stroke, we used Micro-fiber Reduction to improve those ranges and then trained our swimmers to use their hips to generate power. Illustration 6 is a table of results for some of our swimmers. These results were achieved in just 15 hours of work with us.

One of our swimmers, a ten year old freestyler swimming JO times, cut his stroke count from 24 to 14 in just one week. Another swimmer, Drury Gallagher, cut his stroke count from 14 to 12. He is also free of shoulder and back pain for the first time in 10 years. Gallagher, 54, walked away with six gold medals at the 1991 Short Course Nationals in the 200 and 500 free, the 100 and 200 breast and the 200 and 400 IM, achieved six world records at the Pan Pacifics and trains under 4,000 yards a day, five days a week.

It was obvious to us by analyzing underwater footage from Barcelona, that many of our Olympic swimmers lost because of poor timing and flexibility. Because coaches, swimmers, and the public are not aware of the importance of these factors, they all, especially the swimmers, erroneously blame their losses on mental factors. Restoring their timing and flexibility would bring back their former speed.

We foresee the new swim paradigms extending swimmers' careers at least into their mid-thirties.

The Future

Presently we work with individual swimmers. However, recently we have started to expand our services, taking what we have learned from improving individual swimmers and working with groups of swimmers. The results are impressive.

In the summer of 1991, we consulted with the Soviet National Swim Team at the request of their head coach Gennadi Touretski. We showed Touretski the range deficits in his swimmers and how to correct them. He was surprised by what we showed him, as the team methodically spent many hours each week on their stretching program. We also showed him how to improve the timing on his swimmers' hip rotation. His swimmers went on to win the European Championships. One of the swimmers we worked with, Aleksander Popov won gold medals in the 50 and 100 free at Barcelona.

We now offer a clinic for groups of swimmers. With underwater videotaping, we measure and analyze their mechanics every 1/30th of a second. We help them improve their mechanics, emphasizing the early use of hips in the stroke cycle. Since flexibility is so crucial to good mechanics, we also show them how to measure and stretch the twenty ranges they need to be efficient swimmers.

We have recently developed a training aid that teams can use to improve the speed, strength, range and timing of hip rotation in their swimmers. We expect this product will be available by this fall.

Several countries have expressed an interest in licensing the technology we have devel-

oped to improve swimmer's performance. We are excited by the long-term prospects of children learning to swim first with their hips and maintaining the flexibility they have when they are young. Since every training error is permanently recorded in the connective tissue, the only way to avoid stiffness and poor mechanics is to start swim training with the hips, and then monitor the effects of every subsequent training method on flexibility and mechanics. It is foolish to follow the present method of waiting until injury, and then "backing off."

Finally, we have come to realize that with the demands of current swim programs, coaches just do not have the time to videotape, analyze and monitor a swimmer's mechanics on a weekly basis. This must be done, however, because timing is so critical. If you go back to the graphs of swimmers A and B, you will see that the difference between good and poor hip rotation is only a fraction of a second. The timing is too brief to be monitored with the unaided eye from the deck. It requires slow-motion and freeze-time videotaping. In the future, we foresee that all swim teams will have stroke analysts. Otherwise, a swimmer will repeat a stroke error 4,000 times a day on just a 5,000 yard work-out.

Doing that in any other class but swimming would earn that swimmer failing grade.

If you are interested in more information about generating propulsion from the hips and Micro-fiber Reduction contact Bob Prichard at Somax Posture & Sports by calling (800) 227-6629 or writing to Somax Posture & Sports, Bob Prichard, Director, 645 Tamalpais Dr., Corte Madera, CA 94925. §

"MASTERING SWIMMING"

THE IDEAL CHRISTMAS PRESENT FOR THE SWIMMER IN YOUR LIFE.

MASTERING Swimming is a book for swimmers. Compiled by Anita Killmier the National Director of Coaching for AUSSI Masters and recent winner of Coach of the Year, the book has contributions from Australian and overseas experts, including WA's Kay Cox.

The first line of the media release appealed to me. "What beats jogging as a way to keep fit and healthy"? Not being built to cover the ground like a gazelle I read on, "Water exercise of course", was the answer. The book is a complete guide for swimmers from the novice to the experienced, for coaches, and covers adulthood cycles, diet and all aspects of interest to the aquatic person.

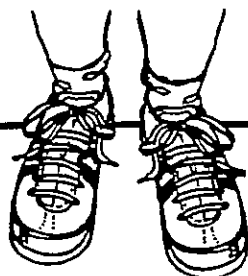
"Mastering Swimming" is available from your Branch Secretary at \$26.95 plus postage, or direct from:

ANITA KILLMIER

Wellness tips

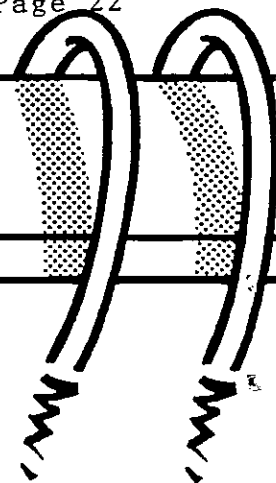
✓ Make your own frozen gel pack for icing injuries by partially filling a heavy-duty plastic freezer bag with a mixture of 1/4 rubbing alcohol and 3/4 water. Seal the bag, then seal it inside a second plastic bag. Place it in the freezer. The gel will remain soft (the more alcohol you use, the softer it will be), making it gentler on injuries than an ice pack.





NUTRITION FOR SWIMMERS

BRIGITTE URBANI
DIETITIAN
SPORTSMED.SA



Optimum nutrition for good performance in swimming is the result of longstanding balanced food habits, not of the pre-event meal, nor of the intake during the last few days prior to competition.

Manipulation of the latter two may assist performance, however it will not rectify the effects of poor long term dietary habits. Remember also that although inadequate diets will impair performance, excessive nutrient intake won't result in achievements beyond the expectations of physical training!

Optimum dietary intake encompasses the Dietary Guidelines For Australians:

1. Promote breast feeding
2. Choose a variety of foods daily
3. Control your weight
4. Reduce fat intake
5. Reduce sugar intake
6. Eat more wholegrain breads and cereals, fruit and vegetables
7. Limit alcohol intake
8. Use less salt

A balanced, nutritious diet is made up from foods from each of the following groups:

1. Wholegrain Breads/Cereals : Carbohydrates, fibre, B-group vitamins, minerals
2. Fruit & Vegetables : Carbohydrates, fibre, minerals, vitamins (A, C & Folic Acid)
3. Meat, Fish, Poultry, Eggs, Nuts, Lentils : Protein, fat, minerals (iron), B-group vitamins (niacin), vitamin D
4. Milk, Milk Products : Protein, calcium, carbohydrates, riboflavin, vitamins A & D, fat

MEALS

Carbohydrate foods (particularly Groups 1 & 2), provide us with the basic component, GLUCOSE, which is our major fuel or source of energy, and which is stored in the liver and muscles as GLYCOGEN. When glycogen stores are kept at their optimum, performance in endurance events can be maintained longer. For those involved in regular and strenuous training, a sensible dietary intake high in nutritious carbohydrate foods (at least 55% to 60% of the daily energy intake) should be consumed.

Age Determination Date

A resolution passed at the recent Board Meeting was:-

That AUSSI Rule SW2 will now read: "For all purposes pertaining to World Masters Records, World Masters Swim Meets and all AUSSI conducted events, the actual age of the competitor shall be determined as of 31 December of the year of competition".

A further resolution was:

That rule SW2 become effective on 1 January 1995.

To put it simply - age determination date will remain as the last day of the Meet for all AUSSI activities for the rest of the year, but as of the 1 January 1995, all AUSSI Members will adopt the age in whole years that they will be on 31 December 1995 for the whole of 1995

A sample meal plan includes:

BREAKFAST : Wholegrain bread/toast + scrape margarine +/- vegemite/honey/jam
Wholegrain cereal + low fat milk
Fresh fruit and/or juice

LUNCH : Wholegrain sandwich/es or roll with lean protein + salad filling
Fruit (+/- low fat yoghurt/low fat milk)

DINNER : Lean meat, fish, chicken or legumes
Potato/rice/pasta - generous serve
Wholegrain crackers/bread
Low fat yoghurt

SNACKS : Fresh/dried fruit
Wholegrain crackers/bread
Low fat yoghurt

FLUIDS

Apart from food, water is of utmost importance to athletes, including swimmers, and should probably be considered the "most essential nutrient".

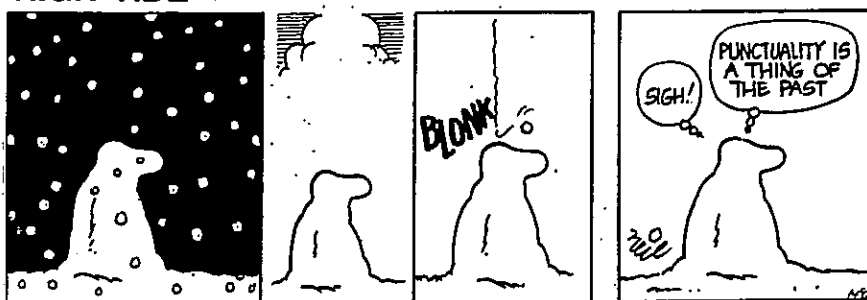
Inadequate fluid replacement is one of the major causes of fatigue in sport, and if not corrected, can lead to serious health consequences. Fluids should be consumed before, during and after exercise at a rate of about 500mls - 1000mls (2 - 4 glasses) per hour of exercise, on top of the usual fluid intake. Water is the best fluid, as it is emptied rapidly from the stomach and quickly reaches the cells where needed. In summer, "fridge" temperature water helps to keep the body's core temperature down, as well as enhancing gastric emptying. For those involved in endurance events, glucose polymer drinks (available from chemists) can be taken to help maintain energy levels.

WEIGHT CONTROL

Carrying excess body fat reduces work efficiency by increasing the amount of energy and oxygen required to do a set amount of work. To control weight, follow the dietary guidelines and five food groups, and avoid high fat (fried foods, fast foods etc) and high sugar foods (soft drinks, biscuits, cakes, lollies, chocolates etc). Avoid fad and crash diets as these can reduce muscle, be generally injurious to health and certainly adversely affect training and performance!

GUIDELINES FOR PRE-EVENT INTAKE

- Adequate in fluid
- High in complex carbohydrates
- eat 3 - 4 hours prior to event
- Low in fat
- Small to moderate protein
- Low in salt
- Avoid excess fibre (bulk)

HIGH TIDE

*How many of you know that AUSSI National put out a National Newsletter that gets sent to every club secretary? They are asked to make it available to club members either by distributing copies or by posting it on a notice-boards. Copies are free to clubs, but it is cost prohibitive to send one to every member. It includes many interesting items, and is just one more in a long list of items that your membership provides you with. If you have not yet seen a copy get onto your club secretary.

THE FOLLOWING IS AN EXCERPT FROM THE VICSWIM GUIDELINES ON TEACHING DIVES.

Recently a school child suffered neck injuries as a result of hitting her head on the bottom of the pool while performing a crouch dive.

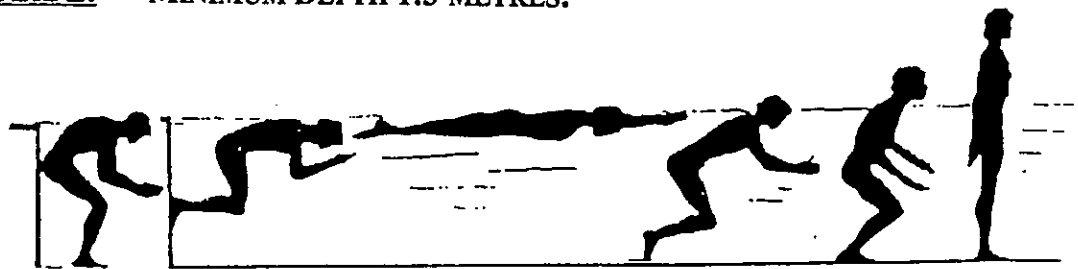
The depth of the water was only 1.1 metres! Fortunately she avoided having to spend the rest of her life in a wheel chair. Obviously the teacher in charge of the class should have ensured that the water depth was suitable for that type of activity.

VICSWIM does not want any similar accidents to occur during its programs. The following information has been developed by the Australian Diving Association. It outlines the steps they use to teaching diving and the minimum depths required.

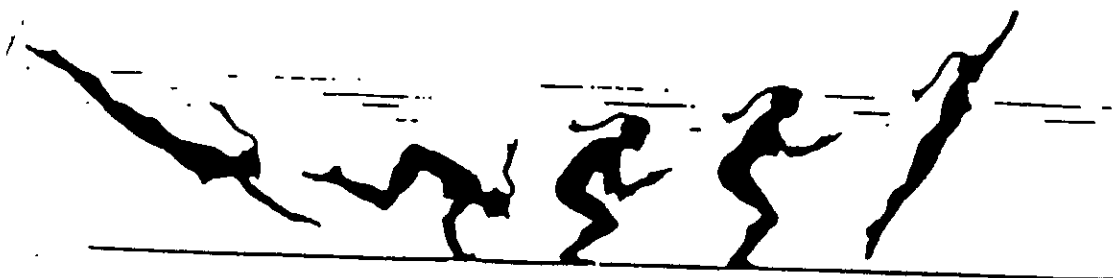
If you do decide to teach diving during the VICSWIM classes please ensure that the MINIMUM depths outlined are adhered to. If water of the depth recommended is NOT available, THEN DO NOT TEACH DIVING AT THAT VENUE.

NOTE: *It is not recommended that any back dives be taught during the VICSWIM program.*

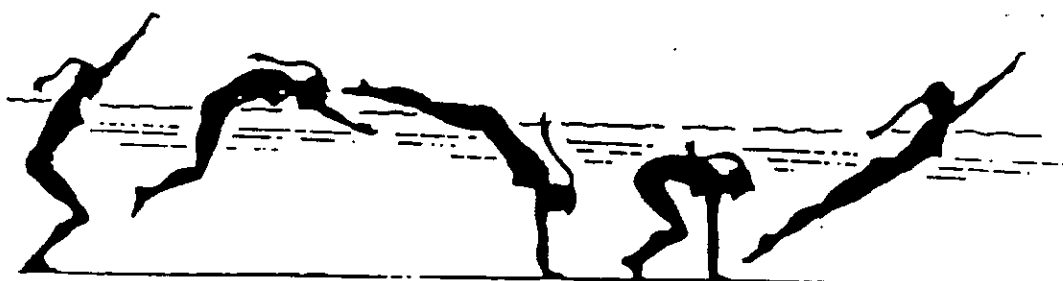
SURFACE GLIDE: MINIMUM DEPTH 1.3 METRES.



GLIDE TO BOTTOM: MINIMUM DEPTH 1.3 METRES.



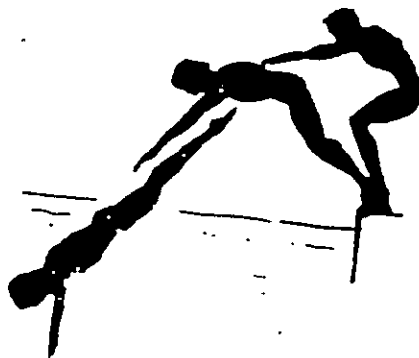
GLIDE TO BOTTOM FROM STANDING POSITION: MINIMUM DEPTH 1.4 METRES.



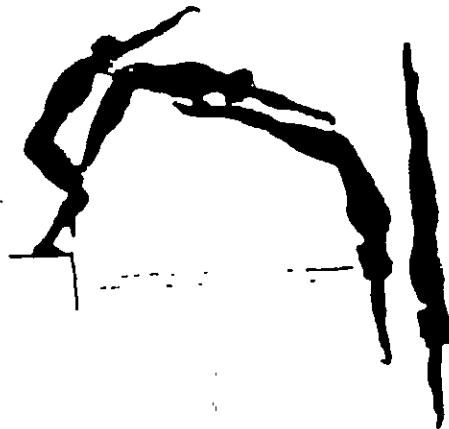
FORWARD DIVE FROM POOLSIDE (SIT POSITION): MINIMUM DEPTH 1.8 METRES.



FORWARD DIVE FROM STANDING POSITION (SEMI CROUCH): 1.8 METRES.



FORWARD DIVE FROM UPRIGHT POSITION (BARREL DIVE): MINIMUM DEPTH 2.4 METRES.



Pumping Iron can't change fat into muscle, but results please

Here's the straight goods on weight training, according to Shelley White.

■ Fat doesn't turn to muscle and muscle doesn't turn to fat. They are two distinct tissues. But weight training can increase the size proportion of muscles.

■ Muscles do burn more calories than fat does. The fitter the body the more efficiently calories are burned and the more a person can eat without weight gain.

■ Weight loss can occur with weight training but only if coupled with a change in eating patterns.

■ Extra sleep is not needed because of exercise. In fact, because exercise provides a stress release, less sleep is often needed.

■ Isotonic exercises are preferable to isometric. Isotonic move through the full range of motion of a muscle--lengthening and shortening -- and strengthens it; iso-

metric exercise is just resisting.

■ There's some cardiovascular benefit to weight training if a person moves directly from one machine to another within 30 seconds, the heart rate can be raised up to 70 per cent of its target rate.

■ Consistency is a virtue: Weight train three times a week and you'll feel a change within two weeks and see one within six.

by Catherine Dunphy, Toronto Star

AUSSI RESOURCE CENTRE

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

Items are available for the following hiring charges:

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

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

VIDEOS

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

AUDIO TAPES

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

AUSSI RESOURCE CENTRE - ORDER FORM

NAME _____
 ADDRESS _____
 AUSSIE CLUB _____
 MEMBERSHIP NO. _____

I REQUEST THE HIRE OF THE FOLLOWING ITEMS
 1. _____
 2. _____
 3. _____

I WOULD LIKE TO HIRE THEM FOR A TOTAL OF _____ WKS COMMENCING _____ DATE _____
 I AGREE TO RETURN THEM IN GOOD ORDER
 COMPLETE WITH MY CHEQUE FOR HIRE AND
 POSTAGE
 SIGNED _____
 DATE _____

CHEQUES MUST BE MADE TO "AUSSI"
 27 Johnstone Street,
 MALVERN 3144



AUSI MASTERS SWIMMING

IN AUSTRALIA (INC.)

NATIONAL OFFICE

P.O. Box 207

COWANDILLA S.A. 5033

Telephone (08) 344 1217

Facsimile (08) 269 7150

1 December 1994,

COACHES INDEMNITY INSURANCE

The present Coaches Indemnity Insurance arrangement AUSI has with IEA, expires on 31 December 1994.

We have however, renewed the Policy for 1995
Terms and conditions remain the same as
for this year.

ALL AUSI COACHES TO MAINTAIN THEIR INDEMNITY COVER,
NEED TO RENEW THEIR INSURANCE THIS MONTH.

The policy cover will commence on 1 January 1995 and we ask you to send a cheque for \$30.00 made payable to: **AUSI MASTERS SWIMMING**, together with the attached form to the above address.

PLEASE NOTE: PERSONS CURRENTLY HOLDING LEVEL 1 OR LEVEL 1M COACHES ACCREDITATION MAY APPLY DIRECT. NON ACCREDITED CLUB COACHES OR ASSISTANT COACHES MUST APPLY THROUGH THEIR CLUB, AND THE CLUB MUST PROVIDE A STATEMENT THAT THE PERSON IS ACTIVE IN CLUB COACHING.

Yes, I wish to join the coaches indemnity policy for 1995 I am enclosing my cheque for \$30.00.

NAME: _____ (Please print)

ADDRESS: _____

CLUB STATEMENT: _____ (if applicable)

Signed: _____

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

AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

AUSTRALIAN SUBSCRIBERS \$16.00 / 4 issues

OVERSEAS SUBSCRIBERS \$24.00 / 4 issues (Bank Draft Only)

Please send me one year's subscription of the AUSTRALIAN MASTERS
SWIMMING COACHES NEWSLETTER.

NAME:

ADDRESS:

.

. POSTCODE

PLEASE TICK: ☐ SUBSCRIPTION RENEWAL ☐ NEW SUBSCRIPTION

PLEASE DETACH AND SEND THE WHOLE PAGE

CHEQUES TO BE MADE PAYABLE TO:

"AUSSI"

C/- Australian Masters Swimming Coaches Newsletter
27 Johnstone Street,
MALVERN VIC 3144
AUSTRALIA

OFFICE USE ONLY: Feb

May

Aug

Nov

I do apologize to those of you who were sent subscription renewal forms by accident.
Also to those who requested the last issue with their renewal but didn't get it.
Unfortunately not enough were printed to cover all the late subscribers. Your subscription
will begin with this issue instead.

Our greatest glory is not in never failing but in rising every time we fall.

