

AUSTRALIAN MASTERS SWIMMING COACHES NEWSLETTER

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Editorial

Hello Readers,

Congratulations to the organisers/workers/swimmers/officials and volunteers, of the 1999 National Swim in Darwin. I believe the swimming was hot and the weather perfect. Well done to all. I haven't heard how the social side of things went, however we are expecting a visit from Max and Rosita Gillespie (Brisbane Southside) this week and I know we will be well and truly updated.

Jacinta thank you for your article on page 2, you really showed just what a complex job coaching Masters swimmers really is. I know one of my coaches was thinking of joining Peter and I when we were having our child birth lessons, just in case IT happened while I was at training. They called me the winged keel.

Thank you again to Max for his regular contribution in the area of physiotherapy. I am looking for any articles of interest to coaches and swimmers. You can e-mail to tma@cqu.edu.au or send to the editorial address on the left of this page. Keep up the training.

Claire Reaburn

FROM AROUND THE BRANCHES

National Coaching News

Coaches 'Updating' made easier

There have been several changes with coach administration in the past few months that will affect coaches. I will highlight two of these changes in this issue.

The first one is 'Updating'. Coaches will be aware that we have an 'Updating' policy in place for our coaching accreditation scheme. It requires that coaches 'Update' their qualifications every four years. The previous requirement was for Level 1M coaches to earn 24 points through courses and workshops etc. over the period of four years. Level 2M coaches needed to get 48 points in a similar manner. As of June 30th this year AUSSI will be adopting the Australian Coaching Council's (ACC) "minimum updating standard". This is defined as, 'to achieve updating at level 1, a coach must be actively involved in coaching'. 'Actively involved in coaching' is defined as doing any of the following activities:

- Coaching an individual or team
- Mentoring other coaches
- Working with a senior coach
- Coach's Association Membership
- Attending updating workshops
- Attending coaching workshops

Updating requests can be sent directly to the ACC.

Updating for level 2M will remain as it is and coaches need to be actively involved in coaching in the ways as well as other activities to gain the necessary 48 points over a four year period. They also need to keep a log of these activities and submit this to their Branch Coaching Director.

Coaches Code of Ethics

Whilst to date AUSSI has not had the experience of unethical or criminal behaviour by coaches there has been an increase in allegations in other sports. As a result the ACC has undertaken to combat this by setting standards of behaviour for coaches. Coaches undertaking coaching courses from now on will have to 'sign-on' to a Coaches Code of Ethics. This is being introduced across all sports to ensure that coaches behaviour is ethical and above reproach. AUSSI is reviewing its Coaches Code of Ethics.

If you want any further information on either of these issues contact your Branch Coaching Director.

Kay Cox

National Director of Coaching
Northern Territory

The recent 1999 National Swim which was held in Darwin was a successful meet set in beautiful tropical surrounding, with weather

made to order. The hard training over the past twelve months had paid off for swimmers, reaping the benefits with numerous PBs and satisfaction with their swims. It's always comforting to see the increased numbers at training in the final months leading up to a big meet of this calibre, but also makes a coach review motivational tools to try to retain these numbers throughout the rest of the season when incentives are not as high and goals seem so much further away. NT swimmers finished with many aggregate placings spread across the age groups, many of these unexpected, too. It was also a good chance to catch up with other swimmers and members of the coaching fraternity that one only comes upon on such occasions, despite constantly reading how things are going throughout the year via the Coaching Newsletter.

Attendance at the 1999 ASCTA Conference proved to be one of the most worthwhile conference I have ever attended. The only disappointment was the lack of masters strands available. The session conducted by Rod Porteous, Judy Bonning and visiting coach Dick Hannula was most beneficial, simply because of its informal mode. In many ways the opportunity to ask questions and discuss relevant Masters issues is more valuable than the lecture-type sessions. The issues raised in the session crossed a variety of topics from technical to coaching to individual session structure to Aerobic swims. All who attended this session were pleased and the fact that it went well over the scheduled time only served to emphasize the importance of AUSSI in the scheme of Australian Swimming. I only hope to be able to attend a larger number of Masters sessions during future conferences.

Jacinta Stirrat
Queensland

Level 1M Course part 2 at Mackay, tentative date - October 1999.

Recently had the honour of representing AUSSI at the ASCTA Conference. Other presenters were Judy Bonning and Dick Hannula (USA). A constructive discussion session on any topic within Masters for 1.5 hours.

Gladstones Coaching weekend 4th & 5th September. Guest this year is Ian Finlay.

Ian to do strokes work and after dinner talk on preparation of swimmers.

Ian coached Glen Housman to Olympic silver 1992 and Darren Lange to Olympic sprints.

Guest speaker Des Renford, at the recent National Swim in Darwin related one of his coach's words of wisdom:

Continued on page 2

Around the Branches cont'd from page 1

"Success comes before work only in the Dictionary".

Rod Porteous

Victoria

Hello my name is Grant Watson and I am the newly appointed Director of Coaching for AUSSI Masters Swimming in Victoria. Towards the end of last year we ran a successful Level One coaching course with thirteen successful coaches on the way to receiving their accreditation.

This year we plan to run a weekend camp at Ballarat University using the facilities of The Aquatic Research Laboratory with the opportunity to obtain valuable underwater video of masters swimmers. This will enable us to directly observe stroke faults of swimmers from an angle that most coaches would not normally observe. This service is made available by the School of Human Movement and Sport Sciences at the Ballarat University. The facilities and swimming pool at the University are fantastic with the best filtered pool water available.

We will also run a stroke a month clinic for our coaches and any one else interested. There is so much you can do, it's just a matter of organising time, people and venues.

To finish off this very brief note on what is happening in Victoria I would like to share with you some of my feelings as to why I swim.

I have had this article written by 1988 Olympic gold medalist Tom Jager for a number of years now and would like to share it with you. "Memories and friendships are an integral of who I am. They helped me enjoy a sport that was very difficult and tiring. But none of them have anything to do with the part of swimming I believe is far overrated - winning and losing. When I think of swimming, I don't think best times or gold medals. Instead, I think of best friends and golden memories. No matter what your

aspirations or achievements might be, with swimming you can always strike this gold".

Grant Watson, Director of Coaching, AUSSI Victoria, Email: gwato@iaccess.com.au

Western Australia

After over 15 years (14 years continuous) in the position of Director of Fitness and Education in WA I did not stand for election this year. It was a difficult decision however, as the National Coaching position keeps growing it has been difficult to keep both of these going. I will still be involved in coaching and officials courses. There are well qualified coaches in WA to take over the task and I have handed over to Vic Paul. Many of you will know that he is also a very accomplished swimmer.

Kay Cox, WA Director of Coaching

National Coach of the Year Award

Congratulations to Alina Graham AUSSI Masters Swimming's 'Coach of the Year 1998'. Well done to Ian White from the Leeming Club in WA and Margaret Wilby Coogee-Randwick NSW, who were also nominees for the award. I believe all coaches give of their time and expertise and deserve recognition from their swimmers and clubs. Thanks to those clubs and branches who saw fit to nominate their coaches. I was asked what happened to the other 5 Branches. Good question! I don't believe they don't have coaches who warrant recognition. Come on all Branches start thinking now about the '99' award and who deserves nomination.

Alina although only having a relatively short period as an AUSSI coach has certainly had an impact at club and Branch level in the past 12 months. She is a level 1M coach and is working towards her level 2M qualification. Alina also has other swimming coaching qualifications. She averages 8-10 hours a week coaching a group of 30-40 swimmers at the North West United Swimming Club in Qld. As well as coaching her group she also found the time to take on other tasks within the club and has become its driving force in her role as President as

well as coach. She was also responsible for conducting several swim carnivals.

Alina has made every effort to provide for the individual needs of her swimmers by offering flexible training times and providing counseling on setting goals. She encourages achievable goals for her swimmers, for their swimming as well as in their lifestyle. Her swimmers have praised her organizational skills and her innovative ideas such as a stretching program and videos of strokes. There have been several successes with swimmers improving distances swum, performance times and an increase in training times. Alina makes an effort to further her skills and knowledge. She has continued her coach education by giving lectures at Branch level and she has also delivered lectures for other groups such as Austswim.

Alina was presented with one trophy at the ASCTA Conference by National Coaching Panel member Ted Tullberg. The AUSSI Award was presented by retiring president Glenys McDonald at the National Swim Dinner in Darwin. Congratulations again Alina and thank you for your ongoing contribution to AUSSI coaching.

Kay Cox, Director of Coaching

Well done Alina

Challenge and Variation in Coaching Masters Swimmers

by Jacinta Stirrat (Coaching Director - NT Branch)

Having come from an amateur swimming coaching background based around junior programs, my gradual introduction to Masters coaching was a real 'eye-opener'. Where there were considerations concerning those coming out of learn to swim programs, moving through the junior ranks on and up to aiming for nationals, the entire age range covered only 10-15 years. Upon setting up a masters squad I was suddenly faced with a 50 year age and ability range.

The considerations for my swimmers suddenly compounded. I was faced with catering for swimmers looking for a much wider range of needs including stroke correction, fitness, training for competition and fun. On top of all this was the myriad of health considerations which began to present themselves. Writing programs now had to take into account pregnancies, high blood pressure, lack of joint mobility, chronic inju-

ries, medication, operations and work stresses just to name some of the more prominent ones. The challenge was there.

Five years later it's all commonplace and my coaching and programming are much better for the experience, but more than anything, I love it! The variation is stimulating and the fact that people are attending training because they want to and need to, as opposed to parents wishes, all makes for a positive and enjoyable atmosphere. It's far easier to coach when the swimmers are themselves motivated. Medical forms give me an insight into individual swimmers needs and attendance at national AUSSI Coaching workshops and Masters competitions have broadened my coaching knowledge, my network of coaching associates and my range of friends. Their goals help me to divide my training lanes and time between stroke correction, fitness and competition swimmers. It is a pleasant diversion from working with young people who sometimes resent instruc-

tion, and the social life is on another level completely. I have learnt about restoring furniture, accounting, medicine, surveying, tourism and babies, all while on the deck.

The swimmers are themselves a great inspiration to me and my own training and my efforts to make the sessions enjoyable. I can talk on the same level and know I am understood (most of the time); it's a pleasant interlude from the often harsh realities of raising four children and I can see how much the swimmers are learning about their chosen sport. The commitment is the same whether 15 or 55 and apart from that I also get to experience the most spectacular sunsets and tropical downpours. I know I am lucky to be involved in a sport that provides so much challenge, variation and personal satisfaction. And the beauty of it is that from 20 - 120 I'm guaranteed a much longer time with my swimmers.

Breathing and Stroke Technique for Everyone

Just Add Water to Swim

by Aaron Davis, the producer of the "Just Add Water to Swim" video
and New Zealand Swim Coach of the Year

More and more adults in New Zealand and throughout the world are turning to swimming for their physical exercise. As Masters swimmers, you all know that regular swimming is good for you and perhaps, much more to the point, good fun. It is no surprise to me that swimming is rated the number one sporting activity for adults. Swimming exercises all the major muscle groups, increases flexibility and range of movement, builds stamina and endurance.

Many adults, and this includes many Masters swimmers, find that their swimming does not progress and that their visits to the swimming pool for training sessions are frustrating. How often as I stand poolside do I hear "I wish I could breathe properly" or "I'd love to take up swimming regularly but I don't really like the water" or, from Masters swimmers who train hard "I'm not improving at all, no matter how hard I work!". The aim of the video is to demonstrate the basic drills which I believe will help all adult swimmers to improve their swimming.

Most adults who either come late to swimming or have distant memories of swimming as kids, try to swim very hard and muscle through the water. They envy the easy gliding motion of efficient swimmers. They work harder and harder and get puffed. They thrash their limbs more and more but go no faster through the water. It only takes a little reflection to realise that there is a significant technical aspect to swimming well. Humans are not made for the water and have to adapt and become efficient in the water. So stop and think and start to swim "smart". Swimming "smart" involves doing the technical exercises which will improve your efficiency in the water. In my experience of teaching and coaching adult swimmers, they often ignore this simple truth.

The techniques and drills now used to coach good efficient technique have changed dramatically in recent years. Swimmers at every level have to practice basic drills to maintain and improve their efficiency in the water. None of this is just for champions.

All adult swimmers have much more to gain by technical advances than by increasing their fitness. Bad technique holds back most of the swimmers I see at the pools far more than their level of fitness. In fact for many Masters, better technique and efficiency is the only way to get much faster.

The video shows the basic coaching drills and techniques which are central to developing an efficient Freestyle technique. The drills will help you balance your body in the water and swim with

rhythm and timing. Just watch how a good swimmer does not barge through the water but slips through it as he or she pulls. The key areas are:

Balance

Your body needs to sit balanced on the water providing as little drag as possible. You need balance with the head in line with the chest in a natural position. From this position you are able to pull your body through the water efficiently - you can slip through the water.

Rotation

From the balanced position you roll the body as you breathe. Your body moves as one unit. If your head moves on its own to catch a breath, the alignment is lost and drag created. Rolling the body to breathe reduces drag and allows you to move more easily through the water. The rolling in the body and hips also increases the power of the pull. As with hitting a golf or tennis ball or throwing any kind of projectile, the turning force of the body drives the stroke, so remember to rotate.

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Exhale

Most swimmers get that puffed feeling because they retain air in their lungs. You have to exhale strongly to get rid of the carbon dioxide.

Swimming is a complicated motor skill. Good technique cannot be acquired overnight but, if you concentrate on the basic drills which emphasise the key technical points in the stroke, you can swim much more efficiently and enjoy your workouts more. The principles of swimming are the same whether you are just trying to take up this great sport, are a dedicated Masters swimmer or are aiming to represent your country at the Olympic games. Do the drills and build to a full stroke.

Think.

Balance/rotate/exhale

On the video you will see drills that will break down your stroke and emphasise these key areas. You will have a much better understanding of the principles behind efficient swimming and by doing the drills regularly you will begin to swim in a more relaxed and efficient manner. Above all, you will really begin to enjoy the perfect form of exercise. That enjoyment will last a lifetime.

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Just Add Water to Swim Swimming Training Video

by Aaron Davis

Phone: 0800
SPORTCOACH
or (64-9) 575-8297
Fax: (64-9) 575-1693

2000 AUSSI National Swim

April 21 - 23 (Easter) 2000

At their recent Annual General Meeting, the Queensland Branch confirmed that Gladstone will be the host city for the 2000 National Swim. This modern city, located 550km north of Brisbane is just south of the Tropic of Capricorn. It has wonderful sub-tropical climate and an excellent array of tourist attraction and facilities. We can be sure that the Gladstone Gropers Club are planning a warm and wonderful welcome.



AUSSI Resource Centre

The AUSSI Resource Centre on page 11 has a large range of Videos.

A great way to get your club together for a social night/fundraiser is to have a video night.

Strategies to Enhance Fat Burning

by Dr Peter Reaburn, Triathlon Research Initiative, Central Queensland University
Adapted from an article in Sports Medicine 25(4): 241-252, 1998.

Endurance training or racing uses both fat and carbohydrates as fuels. The harder we work, the more we use the carbo's. Unfortunately, we only have 60-90 minutes of carbo fuel stored in our muscles, liver and blood. Sure eating and drinking carbo's can help us go longer but what if we could train or trick our bodies to use more fat.

Wouldn't this allow us to train or race longer and harder on what carbo's we've got. The purpose of this article is to examine the research on how we can trick or train our bodies to use more fat as a fuel, thus enhancing our endurance capacity.

Fat as a Fuel

We use carbohydrate (CHO), fat and to a lesser extent protein as a fuel during exercise. During exercise below 80% of maximum heart rate, we primarily use fat as a fuel. Once we start working harder, carbo's start to predominate as a fuel.

Fat has several advantages as a fuel:

- It is more energy dense than CHO
- Unlike CHO, it doesn't need water to be stored
- It can be stored in large amounts
- Uptake by muscles can be enhanced by caffeine

Regular endurance training, while lowering the amount of fat stored under the skin's surface, increases the amount of fat stored within muscles, making it more readily available as a fuel. However, to use fat as a fuel, for biochemical reasons we must have carbohydrate present. When carbo's run out, we "hit the wall" or "bonk"!!

Techniques to Improve Fat Usage

Because of our limited carbo supply, the more we can maximise fat usage during exercise the better. The techniques that theoretically might improve fat burning include:

1. Endurance training
2. Caffeine ingestion
3. L-Carnitine ingestion
4. Medium Chain Triglyceride Ingestion
5. Long Chain Triglyceride Ingestion
6. Injecting Fat
7. Fasting
8. High Fat Diet

Let's look at each one in turn

1. Endurance Training

Long Slow Distance training not only enhances the blood flow and uptake of fats as a fuel, it enhances the storage of fat within muscles as an immediate energy source not needed to be carried to the muscle. These factors will preserve the limited carbo store

and thus prolong the time-period during which low or high intensity exercise can be performed.

2. Caffeine Ingestion

Caffeine enhances the release of fatty acids into the bloodstream from the stored fat under our skin and elsewhere, at least during rest. While some studies suggest that caffeine may inhibit the breakdown of fat during exercise, enhanced performance times have been shown to occur during long, slow exercise, possibly due to the stimulating effect of caffeine on the nervous system.

3. L-Carnitine Ingestion

Carnitine is naturally produced in the body by the liver, brain and kidney. It is also taken in when we eat red meat. After being formed in the liver or eating it, carnitine is released into the blood and taken up by muscles. Carnitine's prime function is to transfer long chain fatty acids into the aerobic energy-producing part of our muscle (mitochondria).

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Many studies have shown that taking carnitine increases its concentration within the blood BUT the all-important uptake by the muscles is NOT affected. This would suggest carnitine supplementation is just another marketer's picnic!

4. Medium Chain Triglyceride (MCT) Ingestion

MCT's contain fatty acids with a chain length of 6-10, they are very small in molecule size for ease of absorption, are relatively soluble, found as liquids at room temperature, and are emptied from the stomach very rapidly, in fact almost as fast as glucose. These characteristics make them attractive as a fuel during endurance exercise or as a pre-event meal to increase fat availability as a fuel and thus 'spare' carbohydrate.

A number of studies have examined the effect of pre-exercise MCT's on endurance performance. None have shown any benefit to either low or high intensity exercise of approximately one hours duration. In fact a number of the studies showed that taking in more than 30gms of MCT's an hour before exercise only leads to gut upsets!!

Taking MCT's during exercise has also been shown to have no effect on performance. While doses of MCT's greater than 30 grams per hour have been shown to minimally benefit 40k time trial performance in cyclists when the MCT's were added to a sports drink, such doses have also been shown to cause gut upsets that may impair performance.

5. Long Chain Triglyceride (LCT's) Ingestion

LCT's are a poor source of energy for muscles. While ingesting them before exercise raises the blood fatty acid levels like caffeine does, no benefit to carbo sparing or endurance performance has been observed in any study.

6. Injecting Fat

A number of studies have conclusively shown that injecting fat into the bloodstream or ingesting a fatty meal and then injecting with heparin as an anticoagulant may lead to enhanced performance and carbo-sparing in short-term endurance events such as 15-30 minute runs or cycles. Sounds attractive this possibility but the International Olympic Commission ban the practice.

7. Fasting

Studies on rats have shown improved endurance performance following fasting. However, in humans fasting decreases the amount of carbohydrate available to muscles and thus decreases performance.

8. High Fat Diet

Short term (<7days) exposure to a high fat diet significantly impairs performance. However, in some well-trained endurance athletes, it appears that longer term (>7 day) fat diets may prolong endurance time at low intensity. Furthermore, it appears that short or long term exposure to high fat diets does not alter the amount of carbo used in exercise, highlighting the need for carbo to be in the diet at all times.

In summary, while not conclusive, the research suggests that athletes involved in six-hour plus exercise might benefit from a high Carbo diet during training and a short term period of fat loading followed by a three-day carbo load leading into a race. This looks like the old carbo-load technique!!

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"PROGRESS HAS ITS DRAW-
BACKS, YOU CAN'T WARM
YOUR FEET ON A MICROWAVE."

Allow Yourself Time To Be A Coach: Teach Your Athletes To Do The Simple Science.

by Wayne Goldsmith and Bill Sweetenham

PART ONE

"What does it matter what energy system the athlete is using if they only turn up twice a week"

U.S. Swim Coach John Leonard

Sports science and coach education have evolved in recent years to make more applied scientific knowledge available to the average coach. The difficulty has been that whilst the knowledge has been available, finding ways of implementing an effective sports science program that is practical and can be readily utilised by coaches of athletes at all levels is not so obvious.

What was once the realm of the university trained sports science professional is now the domain of the effective modern coach. With developments in the coach education system, what was "rocket science" is now everyday coaching practice.

A Brief Overview Of The Evolution Of Sports Science And Coaching

1950's - Sports Science introduced to Australia. Not widely understood. Practiced exclusively by scientists and academics. Very theoretical. Actual Coaching still very much "feel", and sports science very much laboratory based.

1960's and 1970's: Impact of scientific coaches (for example, swimming coaches Doc Counsilman in the United States and Australia's Forbes Carlile). Coaches reaching for breakthroughs begin looking at a more scientific method of developing athletes and improving athletic performance. The sports programs of East Germany and the Russian State Sports systems impact on the use of sports science and on the profession of coaching through State organised and co-ordinated talent identification programs, scientific athlete development structures and alleged systematic performance enhancing drug use. Introduction of organised, systematic, co-ordinated sports science testing. Some limited literature for coaches published in readable form. In Australia only a few sports science people are working with swimming (on a part time basis).

1980's- Impact of coach education (A.C.C./A.I.S./State Academies and Institutes of Sport, etc in Australia). Coaches are exposed to applied sports science in coaching courses. Basic physiology (heart rate and lactate) widely used by sports scientists in the lab and increasingly in the field. Large volumes of data published on sports science in coaching magazines/coaching courses/seminars. The concept of

periodization popularised by Tudor Bompa and others.

1990's: Coaches using heart rate monitors/lactate testers/etc. What was the role of the sports scientist is now blurred with the role of the modern coach.

2000????? Athletes educated on simply and effectively measuring their own performances and training parameters.

In many ways Sports Science has now gone full circle.

With Coaches more exposed to and better able to understand sports science, and athletes being better educated at all levels and ages, the coach can give the athletes more responsibility for basic performance monitoring and return to the use of Coach's feel, instinct and observation etc.

The art of Coaching has become more important than ever. This is in contrast to the popular view that modern (future) coaching will be more sports science based.

"WHAT WAS ONCE THE REALM OF THE UNIVERSITY TRAINED SPORTS SCIENCE PROFESSIONAL IS NOW THE DOMAIN OF THE EFFECTIVE MODERN COACH. WITH DEVELOPMENTS IN THE COACH EDUCATION SYSTEM, WHAT WAS "ROCKET SCIENCE" IS NOW EVERYDAY COACHING PRACTICE."

The next phase in the evolution of sports science and coaching is to teach athletes to understand simple science concepts, apply them to the training environment and in some circumstances record simple, measurable sports science variables for analysis and interpretation during and after the training session.

Many High Schools now offer elementary sports science and human movement studies to students. The intelligent progressive coach, working towards developing athletes that understand their sport, themselves and self management (more coach *independent* athletes), will take advantage of this direction in general education and utilise the new knowledge base of athletes.

The better athletes are skilled in the management and monitoring of their own performance at training, the more FREEDOM the coach has to do what he or she does best.....BE A COACH AND COMMUNICATE!

The evolution of the responsibility for the implementation of basic sports science has now developed from SPORTS SCIENTIST TO COACH: COACH TO ATHLETE.

Put simply, by teaching athletes to better understand and utilise simple sports science techniques, the coach is free to spend more time being a coach.

For example:

If the coach is taking times and yelling them to athletes, he/she is a timekeeper.

If the coach is counting strokes, counting laps, counting strides, monitoring training with a calculator and a clipboard, he/she is an amateur biomechanist.

If the coach is standing at the end of the pool, at the track or on the court holding a heart rate monitor he/she is an amateur physiologist.

If the coach is standing at the end of the pool or track writing down splits, times etc he/she is a data recorder.

These easily measurable simple science variables can be taught to athletes and the athletes can measure and record these variables themselves with limited interruption and disruption to the flow of most training sessions.

As a coach ask yourself "is my coaching, science based or coaching based?"

- Am I coach or a sports scientist?
- Am I a coach or a timekeeper?
- Am I a coach or a biomechanist?

Whilst it is important for the coach to develop skills in all these areas, the art of great coaching which is based in communication, athlete empathy, enthusiasm, innovation and personality must not be totally compromised for the purely scientific approach.

There is no doubt that there are times when the coach needs to know exactly how hard the athletes are working within an individual training session. Vital information on the relative state of fatigue of an athlete from purely analytical data can assist the coach in modifying training loads as needed. Sometimes it is imperative to know what distance has been covered, how long the last pass was, how many laps an athlete has done and so on.

However, the less time the coach spends on these basic tasks during the training session because the athletes have an understanding of what they are doing and can easily and practically measure variables themselves, the more COACHING OPPORTUNITIES present themselves.

The Concept of Coaching Opportunity

The skills that make a coach successful include the ability to observe and analyse, offer effective feedback to and receive feedback from athletes. The athlete feels the technique but can't see it: the coach sees the technique but can't feel it. The more time the coach can spend utilising coaching opportunities the more impact he/she can have on the athlete's development.

Coaches in most sports will often comment that many of the limitations in an ath-

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Health Benefits of Sport and Physical Activity

by Prof. Dr Diane Jones-Palm

There is little question that sedentary lifestyle is unhealthy. research in northern Europe and North America has shown that people who are sedentary are twice as likely to die of coronary heart disease as people who are physically active.

Therefore, the significance of sport is extremely important in today's society, from a health point of view.

What are the health effects of sport and physical activity?

Chronic Diseases

The combination of heart-lung effort and the corresponding caloric expenditure that occurs during participation in sports or recreation, is directly related to a lower risk of mortality and morbidity from heart disease, and colon and other types of cancer, as well as reducing the risk of many chronic and limiting conditions.

Risk Factors for disease

In addition, physical activity effects the following risk factors that are associated with diseases;

Body Weight: Physical activity helps to achieve and maintain appropriate body weight. **Hypertension:** we know that sedentary people have 35 to 52% increased risk for developing hypertension than active people. Aerobic activity leading to endurance clearly has a positive effect on hypertension.

Blood Lipids: Regular sport can improve blood cholesterol profiles.

Diabetes: Physical activity improves the management of non-insulin dependent diabetes, and may well have a role in the prevention of this disease. Physical activity is associated with increased insulin sensitivity, and improves glucose clearance and tolerance.

"THE COMBINATION OF HEART-LUNG EFFORT AND THE CORRESPONDING CALORIC EXPENDITURE, IS DIRECTLY RELATED TO A LOWER RISK OF MORTALITY AND MORBIDITY FROM HEART DISEASE, AND COLON AND OTHER TYPES OF CANCER, AS WELL AS REDUCING THE RISK OF MANY CHRONIC AND LIMITING CONDITIONS."

Osteoporosis: Those who are involved in regular sport have a greater bone density than non-athletes. Exercise can do much to prevent bone loss, and it is thought to be protective against osteoporosis in later life, especially for women.

Risks for other limiting conditions

Mental Health: Studies now showing that increasing physical activity can lead to improvements in mood, affect, less depression and anxiety, and improved quality of life. Physical activity may also reduce the future risk of depression, anxiety and stress.

Musculoskeletal: Physical activity has many beneficial effects on the bone and muscle system. The muscular strength, endurance and flexibility that sport enhances a persons chances of keeping mobile and independent as they age, and may help protect a person

from falls, hip fractures.

Work capacity: Studies are now showing that sport and physical activity may increase work capacity, energy level, productivity, thus making activities of daily living more enjoyable. There is also some evidence that physical activity is related to reductions in absenteeism and increase job satisfaction and productivity among workers.

From scientific studies, it is now seen that low and moderate levels of activity are important. In fact, studies have shown that sports performed at a lower intensity over a long duration can be as beneficial to health as a high intensity activity over a shorter duration.

Any increase in activity, even among the most sedentary of people, represents a contribution to health.

TAFISA (Trim & Fitness International Sport for All Association) and health "Sport for All" efforts to inspire participants to participate in low and medium intensity sport provides an important opportunity to raise awareness and put into practice the relationship between sport and health. TAFISA efforts, therefore, represents a significant contribution to the health of communities and nations.

Because we knew that regular and current participation in leisure sport and recreation is what is likely to confer health benefits, the real challenge to TAFISA is to inspire cities, communities and nations participating in world events such as Challenge Day or Walking Day to be active throughout life, particularly as they age.

Taken from TAFISA Newsletter 10/98

Allow Yourself Time to be a Coach cont'd from page 5

lete's development are technique based. If this is correct then surely a coach's primary responsibility in the development of the athlete is to provide a safe, stimulating training environment where every possible coaching opportunity to develop effective technique is maximised. In junior sports where coaching contact may be limited to two or three sessions per week, how many coaching opportunities are lost to lap counting? How many opportunities for effective feedback are lost as the coach is reduced to playing the role of time keeper and sports clerk?

Most importantly.....

What is the cumulative effect of these lost coaching opportunities on an athlete's capacity to achieve ultimate success? What is the cumulative effect of these coaching compromises on an athlete's career?

Sports Science has no doubt assisted elite sport with significant improvements in train-

ing methodologies and technical advancements at elite level. These developments eventually flow through to all levels of sport and give rise to the continuing improvement in times, performances and records.

However, as the evolution of the use of sports science continues, one must ask, "what is the real benefit of sports science to the practicing coach working with young and non elite athletes?"

Whilst sports science and technological advancements in equipment have made an enormous impact on ELITE SPORT, for the average club coach, coaching reality is working with large numbers of non elite, questionably committed and young athletes where an effective sports science program is at least difficult to implement. Therefore to make a sports science program more effective the coach working within these conditions must rely on accurate athlete self-monitoring and self-recording with minimal equipment.

As only a small percentage of coaches work with elite athletes, and even fewer

enjoy the luxury of working in an Academy or Institute program with an effective sports science / sports medicine support team, sports science is for most coaches a luxury they can't afford in terms of time, resources or finances.

The coach education manuals and resource materials of many sports have been mostly written by sports scientists who have experience with the elite level of the sport, i.e. national team staff, Academy and Institute staff, or are academics with post graduate research in the sport.

In other words, most coach education resources are generally written by sports scientists, with little or no coaching experience, who work with less than one percent of the athletes in the sport and even then only the most talented athletes within that sport for less than one percent of their preparation.

The real impact of sports science at a practical level is in giving coaches the freedom to be coaches.

Rehabilitation from Shoulder Injury

by James W. Miller M.D.

The vast majority of shoulder injuries result from freestyle swimming. Whether the athlete specialises in one of the other strokes or is predominantly a freestyler, most workouts emphasise Freestyle in up to 85% of the yardage swum. It is important for the rehab physician, physical therapist, athletic trainer and the athletes themselves to remember that Freestyle is the predominant stroke with which they must deal in order to progress. In both Freestyle and Backstroke (both long axis strokes), the roll and side positioning of the body are critical as the athlete glides smoothly through the water.

Any joint in the body with restricted movement has enhanced stability, in contrast, any joint with a wide range of movement through multiple planes is inherently unstable. The shoulder is the extreme example of an unstable joint. Think of the shoulder not as a ball and socket joint, with a ball sitting snugly inside an encapsulating socket, but more as a golf ball resting precariously on a tee, a relatively flat surface forming the bony structure of the shoulder girdle. This is termed the "rotator cuff". The very nature of the cuff makes it prone to tears, as well as to overuse injuries when it is abused or over extended.

Once a shoulder injury has occurred, it is by nature an unstable injury likely to progress to a chronic form. If this occurs, the body may lay down calcium within the healing tissue or be exceedingly resistant to healing while the activity continues to be pursued. This is why physicians often advise their athlete patients not to practice their sport while the injury is healing. We all know, however, that when this advice is followed, the swimmer loses his aerobic base unless an alternative activity is substituted, and the all-important "feel for the water" may be lost.

The psychological benefit to the athlete of an aerobic sport, such as swimming, is often not considered by physicians. Many athletes, particularly Masters swimmers, use swimming to cope with the stress and frustration of daily life. When this outlet is removed, a form of withdrawal which often includes depression can frequently occur. So, a wise sports physician should adjust his recommendation to allow the individual to pursue the sport as fully as the injury will permit before gradually returning to full activity.

"THINK OF THE SHOULDER NOT AS A BALL AND SOCKET JOINT, WITH A BALL SITTING SNUGLY INSIDE AN ENCAPSULATING SOCKET, BUT MORE AS A GOLF BALL RESTING PRECARIOUSLY ON A TEE, A RELATIVELY FLAT SURFACE FORMING THE BONY STRUCTURE OF THE SHOULDER GIRDLE."

In returning to the water after a shoulder injury (and note that, ideally, the athlete has never been fully removed from the water), a common rule of thumb is that the athlete should begin training at about 30% of his or her previous level. From there, the swimmer can increase his or her training cautiously by 10 to 15% per week until he or she reaches a normal level.

There are certainly ways of "fudging" on these equations in swimming by substituting drills, kick sets, etc., to keep the yardage up while resting the affected shoulder joint. Once a return to the Freestyle stroke is made, however, emphasis upon proper technique becomes critical. This includes incorporating an efficient stroke and use of the hips into the stroke, which will relieve stress on the shoulder.

By using the body roll to initiate the arm recovery, it no longer becomes necessary for

the arm to extend completely after the entry. Instead, a slight flexion at the elbow joint allows the swimmer to initiate the top part of the Freestyle stroke at the elbow, thus utilising not only the shoulder muscles, but also the back and chest muscles to assist the shoulder in promoting the movement. As the arm goes underneath the body, the hip drives the hand back. At all times, the elbow remains high and never leads the stroke. Many descriptions have been developed over the years to try to convey to the athlete that the elbow bend is essential. These days, coaches emphasise side swimming. This implies that when the shoulder is in its most vulnerable position - extended over the head in the first phase of the Freestyle stroke - the elbow should be slightly bent, taking the pressure off the shoulder. The arms should be six to 12 inches below the surface of the water so that the extension is not so extreme, and the athlete can use the side-lying body position to decrease resistance. As the athlete becomes more comfortable with this body movement concept, he can focus on accelerating the hip roll through the power phase.

Another way of stating this is that hand speed is a result of hip speed. During shoulder rehabilitation, emphasis on drills accentuating these aspects of stroke technique need to occupy a great percentage of the swimming time. This does not necessarily mean that the swimming needs to be slow. As the stroke and the efficiently improve, so will the speed.

Seven tips for rehabilitating Swimmer

1. Don't push yourself to the limit. If you rush back into full training too soon, you are likely to incur a repeat injury.
2. Try using long fins to decrease the stress on your shoulder.
3. Use hand paddles sparingly. Many coaches and trainers view paddles as a double edged sword which tends to instigate injury more often than it improves technique and power.
4. Try to identify what caused the injury in the first place, or a repeat injury is waiting down the path.

Continued on page 12

Pan Pacific Masters Swimming Championships 1999 - Perth 16 -23 October

At the Pan Pacific Masters Swimming Championship in Maui, Hawaii last year, Australia was invited to host the event in 1999.

After a protracted study of bids from Townsville (Qld) and Perth (WA), the National Board has awarded the meet to AUSSI WA for it to be held in the Challenge Stadium in Perth - home of the recent FINA World Swimming Championships.



I know what you did this winter: Swimming Training tips for the colder months.

(Preparation before the Perspiration)

by Wayne Goldsmith (Moregold Sports)

Some of the greatest athletes in the world have come from training programs with less than ideal climates and conditions. Athletes in the U.S., Canada, Europe and Great Britain often train in snow and freezing cold. Athletes in Asia and Africa have to cope with stifling heat and humidity. Climatic extremes can be overcome with a little planning and a positive attitude.

Here's a few ideas to help make **WINTER a WINNER:**

1. Learn to enjoy tough cold conditions. If you get to the top in sport and have to travel to and compete in cold climates, you will be conditioned to it and mentally tough enough to handle every cold weather challenge.

2. Use winter months to fine-tune racing skills, swimming techniques, kicking and other swimming skills.

3. Use the colder months to visit a trained and qualified sports physiotherapist for a **MUSCULO - SKELETAL SCREEN**. The **MUSCULO SKELETAL SCREEN** is a simple physical examination conducted by a skilled sports physiotherapist, which measures your flexibility and stability in key muscles and joints like your back, hips, ankles and shoulders. The physio can then give you some ideas on injury prevention and performance enhancement through the right stretching and strengthening program. Would you buy a car without getting an expert to check it out for problems first? Would you buy a house without getting it inspected and identifying areas of current damage and potential problems? It's the same deal with the screening process. By identifying problems and potential problems before you start off-season training you can greatly reduce the risk of injury.

4. Work on weak areas from the previous summer season. If the second half of your race was weak, maybe try some long running and cycling to develop leg strength and a greater level of aerobic fitness (aerobic base). If your swimming stroke needs a bit more power, talk with your coach about strength training. The winter season is a great time to turn your weaknesses into strengths.

5. Set goals for the coming summer season and plan how you will achieve them.

6. Take up another activity that will help your swimming performance. The martial arts for example, develop self-confidence,

self control, abdominal strength, flexibility, strength and co-ordination. Dance and aerobics develop strength, fitness and flexibility. Developing these skills can go a long way to helping you compete faster when summer comes.

7. Experiment. Try new racing strategies. Practice negative splitting, (finishing the second half of your race faster than the first half), learn to swim, cycle and run at exact speeds, learn how to monitor your own heart rate accurately during training, try different warm up routines, try out new swim gear, cossies and goggles to see if they suit you, practice different breathing rhythms etc. Use winter to experiment with new ideas so when the racing season comes you know what works for you.

"LEARN HOW TO EAT AND
DRINK FOR FASTER RECOVERY.
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YOUR OVERALL TRAINING
PROGRAM CAN BE."

8. Get your diet right. Talk with your coach and local nutritionist about eating for peak performance. Find out what foods keep you training and racing in top shape.

9. If you have a heated pool in your town.....keep swimming! Many swimmers have winter off to play another sport or just use the colder months to have a break from swimming. Rest and recovery is important, but so is keeping your touch and feel for the water. Nothing can replace swimming for the development of swimming skills, so if you have access to warm water when winter chills start keep up your training.

10. Spend some time developing key mental skills. Speed, strength, endurance and skill are all part of being a successful swimmer. So too are mental skills like confidence, motivation, the ability to focus, the ability to relax and the ability to concentrate. Just as you need to train your muscles to get stronger, faster and fitter, you need to train your brain with the key skills it needs to get you through racing and competition. You wouldn't turn up at the start of an Ironman on a bike you have never ridden or without having done any running. Similarly, leaving mental skills training to a quick motivation talk the night

before an event will not get you the results you want.

11. Experiment with new running shoes. See a qualified sports podiatrist and get an assessment done.

12. Join a Cross Country running club or Harriers group and learn to run off road for variety and strength.

13. Spend time with a qualified and experienced track and field coach and learn the skills and drills of running efficiently. Current trends in world distance running suggest that athletes are now thinking "RUN FAST FOR LONG DISTANCES" rather than just "LONG DISTANCE RUNNING". Learn to run fast, with good technique, how to stay relaxed at speed and how to run with control when you get tired.

14. Practice transitions.

15. Learn how to utilise effective recovery techniques. The intelligent swimmer bases his or her training program on their individual ability to **RECOVER**. Your ability to recover from hard work in training and competition impacts on both the quality and quantity of training you can do. No-one is indestructible. Learn how to do self-massage and basic accupressure. Learn how to use **HYDRO-THERAPY**" (ie spa, warm water, hot and cold showers) to increase your ability to recover. Get a regular sports massage. Learn how to eat and drink for faster recovery. Find out how to stretch for enhanced recovery. The better skilled you are in helping your body to recover, the more effective your overall training program can be.

16. Get plenty of rest. An hour's extra sleep each night equals an extra night's sleep every week. Over a full winter this means almost an extra month of healthy rest and restoration through better sleep.

17. Learn to self-monitor and self-manage. Better athletes utilize the skills and knowledge of coaches and other experts, but are also self-motivated and coach independent in terms of looking after themselves. Start a training diary and record things like body weight (on rising in the morning, before you eat anything and after going to the toilet). Rate your sleep out of ten ("one" is a bad night of no sleep and a "ten" is slept like a log). Monitor your mood, (a "one" means you are down, flat, depressed and can't be bothered and a "ten" means you are up, high, feeling great and positive about life). Note the ratings in a training diary and keep a close eye on how your body is changing and adapting to training loads.

Continued on page 12

What is an Athlete

by Dr Kerry Mummery

School of Health and Human Performance, Central Queensland University

Athlete n. 1 a skilled performer in physical exercises, esp. in track and field events. 2 a healthy person with natural athletic ability.

Having spent 20 years coaching in the sport of competitive swimming I have often heard coaches (and administrators) lamenting over the lack of athletic "talent" in their pool. Although often a method of explaining the lack of desired performance coming from their pools, it does beg the question *what does make an athlete?* Having been given the opportunity to comment on the issue, I would like to put forward a list of my 'Top-Ten' items. Certainly there are other defining elements that one can think of. If I succeed in getting you to read that far and think beyond what I have written I will have accomplished something by my efforts.

1. **Genetics/anthropometrics.** Pick your parents well son (daughter)... There is little doubt that genetics play a tremendous role in the making of an athlete. Height, weight, strength, power, and aerobic capacity are all based genetically and can only be altered by a relatively small degree through training. All things being equal a well-trained, genetically superior individual will out-perform a well-trained, genetically inferior competitor. Fortunately all things aren't equal. Human sport has not evolved to the degree of thoroughbred racing where the most important decisions are made in the breeding pen. This provides a window of opportunity for all of us who may not have picked the right parents to still excel in our athletic endeavors. Of course this also means that Kieran Perkins remains more valuable in the pool than in stud.

2. **Strength.** Strength, speed and power are all intertwined elements key to athletic performance. Speed does kill... your opponents that is. Careful training of strength for the purpose of improving explosive power is an element that should not be overlooked in any athlete's training program.

3. **Endurance.** Aerobic power, aerobic capacity and anaerobic threshold, are all terms that flow effortlessly throughout most athletes' speech nowadays. The correct balance of fitness and fatigue in the loading phase will successfully maximize one's capacity. Successful unloading of the athlete during the peaking phase with the maximization of the fitness-fatigue ratio will maximize one's performance.

4. **Flexibility.** All too often overlooked in the makeup of an athlete are flexibility and suppleness. Usually only treated as preventative medicine, one just

has to look at top athletes in full flight to see how flexibility and suppleness present to the bearer extended range of motion and effortless execution of advanced technique. Often only the flexible athletes are the most who feel the inhibitory effects of its loss. Turn the focus of your stretching sessions into one of performance enhancement than simply injury prevention.

5. **Mechanical Efficiency.** Having given physical capacity its due I must emphasize that no matter the sport the ability to apply force efficiently over time is ultimately based in technical ability. Mechanical ability/superiority can only be achieved through much repeated practice and attention to detail. This is not to say that you should become beset by the paralysis by analysis, but I have certainly seen many triathletes in my pool over the years who were arguably fitter than my athletes but not efficient enough to translate that capacity into swim speed. Spend time focusing on the mechanics of your sport, not simply the volumes of work completed.

"SEEK THE SUPPORT OF FAMILY
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LACKING THE SO-CALLED
'NORMAL' PHYSICAL
ATTRIBUTES."

6. **Knowledge.** A good athlete knows him/herself and knows her/his sport. The combination of internal and external knowledge is essential in determining the training and competitive loads that can be endured successfully. It allows the athlete to push him/herself to the limit, but not beyond, thus producing maximum levels of personal performance. Athletic wisdom lies in the ability to correctly assess the maximum training or performance levels that can be achieved on a given day.

7. **Resilience.** I wrote a column a while back on psychological resilience and it certainly makes my Top-Ten' list this time. An athlete must be able to bounce back from negative events in sport and life. Be it injury, illness or simply unexplained poor performance (NOT a simple matter at all!) the road is indeed long and the athlete must be able to display positive adaptive responses to the potholes that we encounter.

8. **Life Balance.** Diversity is the key to a successful investment strategy. Similarly a

well-rounded approach to sport and life will enhance, rather than detract from, the athletic experience. Do not be fooled by those who espouse an overly myopic focus on sport performance. Those who put all their eggs in one basket are sure to see them break at the most inopportune time.

9. **Motivational Focus.** The challenge presented daily to the athlete is how to prepare to maximize one's potential. Over the long term the issue of ongoing preparation and training is a psychological, not a physiological issue. By focusing on the *process* of sport, rather than the *product* of sport the athlete will ensure long-term participation and performance. Sport is as much a journey as a destination, a colloquialism that I am sure I do not have to point out to a readership of masters athletes.

10. **Social Support.** I have tried to include elements of biology, physiology, biomechanics, and psychology in the development of my ideal athlete, to this short list I add the social element. Family, friends, peers and competitors all contribute to the composition of the athlete. As much as we would like to attribute current high levels of athletic performance to the sport sciences the fact that someone raised the bar in the first place leads to succeeding high levels of performance by others. Acknowledge your competitors and what they bring out in you. Seek the support of family and friends in your sporting efforts. Without support from those close and important to you, you will face as big a challenge as does the disabled athlete lacking the so-called 'normal' physical attributes.

Reprinted from The Masters Athlete, Issue 20, August 1998, Po Box 61, CQU Post Office, Rockhampton, Q, 4701

Fitness: Energy Saver

Don't dodge the draft

French researchers have proved that drafting saves energy. The swimmers they studies (all elite triathletes) swam about 3 percent faster when they were trailing a lead swimmer than when they swam alone. Also, their blood lactate - a measure of exertion - was lower, as was their stroke rate (by almost two cycles per minute), and their average stroke length was longer. The faster swimmers in the group benefited more from the drafting, which may be because they're better swimmers, the researchers say. Next time you're tired, take a tow off the swimmer in front of you. It may revive you and get you going on your own again.

Taken from 'Fitness Swimmer', March/April 1999

Official of the Year 1998

Congratulations - Ivan Wingate - AUSSI Official of the Year

Many of us know Ivan Wingate as the National Executive Director, NED, 'the face of AUSSI' etc. But do we know the real Ivan? The Ivan who likes nothing better than to get out there amongst the membership and see people reaping the rewards of all their hard work: adults swimming for "Fitness, Friendship and Fun".

Ivan is a qualified AUSSI Referee and spends many hours of his spare time Refereeing at local AUSSI meets. He was a common sight on pooldeck as Chief Referee at the 1998 National Swim in Hobart and also filled the same shoes at the HONDA Masters Games in Alice Springs. As a FINA Open Water Official, he officiated at the 5Km and 25Km World Championships in Perth in January of this year and as a FINA Masters Official and member of the FINA Masters Technical Committee, he was the Chief Referee for the World Masters Swimming Championships in Casablanca, Morocco. Officials under his supervision, were all FINA accredited and came from nine different Federations. Many of you would have read the amusing account of his experiences he wrote, entitled "Morocco Magic".

Ivan conducted three Officiating Workshops during the last twelve months - two in Adelaide and one in Alice Springs.

Such is his dedication to Refereeing at the South Australian Branch level that they nominated him as AUSSI Official of the Year. The National Technical Committee agreed that his nomination (for the period October 1997- September 1998) was most worthy.

Congratulations Ivan! It is wonderful to see someone who has been around AUSSI for so long being richly rewarded with such an appropriate title. From desk to deck, you are an important asset to AUSSI.

Taken from the AUSSI National Newsletter

Editor: My apologies (and congratulations) Ivan for not placing this article earlier. I completely overlooked it. Recognition of this kind is very important and well deserved.

Well done Ivan

From the Research

Physical Activity or Training and CVD

Over 30% of Ozzies who die each year die through cardiovascular disease (CVD). We masters athletes know the value of physical training and wonder why the vast majority of others aren't following our lead.

Health authorities, rather than pushing training are pushing physical activity as a means of reducing CVD. A recent paper examined the relationship between aerobic capacity (VO_{2max}) we physical trainers have, physical activity (PA) per se (walking, gardening etc), and CVD risk factors. They tested 576 low-fit adults by a PA questionnaire, a bike test to determine VO_{2max} , and checked out their CVD risk factors (blood pressure, cholesterol, smoking, obesity etc).

The results, as expected, those people that had the highest aerobic capacity (like we masters athletes), had a lower relative risk of CVD compared to those that had the lowest PA levels.

McMurray, R.G. et al. (1998). Is physical activity or aerobic power more influential on reducing cardiovascular disease risk factors? *Medicine and Science in Sports and Exercise* 30(10): 1521-1529.

Massage and Soreness

All of us have faced the early season or after race muscle soreness, regardless of how fit we might be. Most large events always seem to have a massage tent that always seems busy. But we've always wondered - does it really work? Will it help me recover? A recent review suggests yes!

A paper published in the latest issue of the British Journal of Sports Medicine reviewed seven controlled studies that determined whether massage alleviated the delayed muscle soreness.

While the review criticised many of the studies methodologies, the overall consensus

is that massage, particularly a number of them rather than just the one, may be a promising treatment for those aching muscles after racing and training. See you at the tent!

Ernst, E. (1998). Does post-exercise massage treatment reduce delayed onset muscle soreness? A systematic review? *British Journal of Sports Medicine*, 32: 212-214.

Creatine and Endurance

Creatine (creatine monohydrate) is being touted around the traps as the new wonder supplement for athletes. Sure, it has been shown to work in power athletes, particularly those that do all out repetitive efforts. However, the marketers of the product are saying it can also enhance endurance performance. A recent paper supports what we sports scientists have theorised - it doesn't benefit endurance!

12 well-trained cyclists were tested on three occasions - once with loading creatine at 25g/day for 5 days prior to testing (the standard way), once doing this load plus using 5g/hr during the test (see below), and once with a placebo or dummy drug.

The test consisted of a 2hr 30 min ride to exhaustion then immediately followed by 5 x 10 sec sprints with 2 minutes between sprints. Aren't sports scientists bastards sometimes?!

The results? Creatine loading alone without using it during endurance racing, improved the mean sprint power and peak power by as much as 8-9%. Neither creatine loading method had any effect on endurance performance, supporting what we have thought for a long time - the marketers are ripping us off again.

Vandebeurle et al. (1998). Effect of creatine loading on endurance capacity and sprint power in cyclists. *International Journal of Sports Medicine*, 19: 490-495.

Reprinted from *The Masters Athlete*, Issue 23, Feb 99

Physio Facts

by Max (the Master) Kavanagh

I explained the need for specific stretching last time but to address the developing rounding (Kyphosis) of the upper back (thoracic spine) we also need to analyse the sport we've chosen.

It's a mistake to think the strokes are greatly different. The pull phase of each is basically "down and in" (extension and internal rotation). Since we don't resist "up or out" (flexion or external rotation) we develop a muscle imbalance producing tightening of the front muscles, rounding shoulders and decreased control of our shoulder blades (scapula). Inevitably this contributes to the injury problems we have mentioned.

Coaches can easily address this by including some simple "opposite" exercise in the pool. Simple examples are pushing with the back of your hand with:-

Flares: Start hands in front of thighs and push up and out to finish in a "W" position.

External rotation: Elbows at 90 degrees held into sides and rotate out to sides.

Reverse figure 8: Draw a figure 8 in the water.

A few of these type of exercises in training breaks can help to balance the muscle work over time. Always start gradually and as strength improves it's a simple matter of a firmer push while returning to the starting position slowly.

Move well. Stay well.

Max Kavanagh is the principal physiotherapist at the South Brighton Physiotherapy and Sports Injury Clinic. The address is 524C Brighton Road, Brighton SA 5048. The Clinic is an APA Accredited Practice, specialising in manipulative therapy, sports injuries, headaches, arthritis management, occupational rehabilitation, and orthopaedic rehabilitation.

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 \$ 5.00	2 Weeks \$8.00
2 Videos	1 Week \$ 8.00	2 Weeks \$12.00
3 Video	1 Week \$10.00	2 Weeks \$15.00

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

Videos

- **Mark Tonelli Gold Medal Series** - Best for novices in that it is simplistic, non-the-less it is very well put together with good camera work and footage.
- **AUSSI Coaching Seminar - with Kirk Marks** - 40 minutes of theory and practical showing real AUSSI swimmers of all shapes and abilities.
- **Swim Easy with John Konrads**. 45 minutes. An in-depth analysis of freestyle the John Konrads way. Excellent visual images.
- **Swimming Breaststroke**. 19 minutes. Superb analysis of the strokes of Adrian Morehouse and Nick Gillingham, plus 5 minutes of Sam Riley.
- **The Athletic Institute Swimming Series** - Covers all strokes, starts and turns with progressive skills. A bit dated but excellent under water shots of good basic techniques. Well worth a look.
- **AUSSI Workshop - Tailoring a programme** - plus booklet. This workshop held in Tasmania features Anita Killmier.
- **Swimming Fastest III - John Trembley**. A video and book combination. A *must* for all coaches, teachers and swimmers.
- **"Swim Smarter, Swim Faster." I & II**. Richard Quick and Skip Kenny of the Stanford University take you through nearly two hours of stroke drills, techniques plus Starts, Turns and Finishes.
- **ASCA Conference - Masters Stream** - Adelaide 1992.
- **Masters Stroke Techniques**. A biomechanical analysis of the four strokes by John Leonard of ASCA, with demonstrations of drills by US Masters swimmers. 50 minutes.
- **Your backyard swimming pool is your home fitness centre** - as the name suggests, gives ideas to utilise your pool to full advantage.
- **Strength Training** - This 30 minutes video provides a comprehensive update on the methods and principles of strength training, i.e. Body Building, Isometrics, Maximal Weights, Eccentric exercises. Excellent for swimmers and coaches about to embark on a strength programme.
- **Stretching - Bob Anderson**. A really great selection of exercises demonstrating correct technique.
- **Food for Sport** - featuring Karen Inge. Very good!
- **Sunrice High Performance Eating Strategies**, - plus booklet. A good video made better by the booklet.
- **Every Second Counts** - Effective Time Management in Sports Training. Whilst this video is not specific to swimming it gives many good examples of how time is wasted in coaching. A good tool for staff workshops or self evaluation.

- **Visualisation** - Focusing Techniques and mental rehearsals are used extensively by all top athletes to enhance performance. This video gives a comprehensive look at the use of visualisation in sport through various case studies.
- **Media Matters** plus booklet - this is hired to you as a kit and is designed for individuals and voluntary groups involved in promoting fitness and healthy lifestyles in the community. It can be used to publicise and attract members, hence is ideal for AUSSI Clubs.
- **Exercise beats Arthritis** - A unique series of exercises set to music, designed to keep joints mobile.
- **Give it a Go!** - Coaching Athletes with disabilities

AUSSI RESOURCE CENTRE

ORDER FORM

NAME _____
 ADDRESS _____
 STATE _____ POSTCODE _____
 PHONE _____
 AUSSI CLUB _____

I REQUEST THE FOLLOWING ITEMS

1 _____
 2 _____
 3 _____

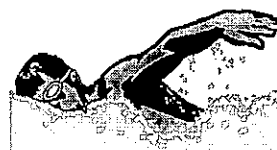
I would like to hire them for a total of _____ wks
 commencing _____

~~I agree to return them in good order complete with~~
 my cheque for hire and postage.

Signed _____
 Date _____

ORDER FORM AND CHEQUES PAYABLE TO:

AUSSI Masters Swimming
 P.O. Box 207
 MARLESTON SA 5033
 Phone/Fax 08 8344 1217



I Know what you did this Winter cont'd from page 8

18. Get a blood test done. Most people wait until they get sick before going for a blood test. Get a blood test done when you are healthy so that your doctor knows what "normal" is for you. That way if you get sick, your doctor has a base line to work from. Ask your doctor to screen for iron and ferritin levels and to look closely at your white cell count (a good indicator of the status of your immune system).

19. Spend some time talking with more experienced swimmers and good athletes in other sports. This is a great way to learn as all of these athletes were in your position at some time in their careers. Ask them about training, diet, keeping healthy, managing time, setting goals, warm up routines, equipment, and other important areas of swimming. Asking questions of people who have "been there" is a great short cut to experience and can save you the pain and effort of trial and error methods. Learn from the best - then do it better.

20. Think long term - act short term. Set long term challenging goals for next summer, but act on achieving those goals every day in training during winter. Winning tomorrow starts by winning today. To win tomorrow's race, first win today's training session. Will you be a better swimmer tomorrow because of what you did in training today?

Rehabilitation from Shoulder Injury cont'd from page 7

5. Incorporate a stretching routine into your training.

6. Think ice. Regardless of the medications your physician may prescribe, the magical drug that is most frequently overlooked is ice. The sooner that ice can be applied the better, and ice massage beats a static ice pack any time.

7. Don't overlook nutrition. A healthy diet is the cornerstone of rehabilitation.

Dr. James Miller is the chairman of the USMS Sports Medicine Committee, and is president of Family Practice Specialists of Richmond, Va. He served as the vice president of USMS from 1993 to 1997.

Swim

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Dates to Remember

30 Sept - 3 Oct 1999

7th Australian Masters Games Swim
Adelaide, S.A.

16 - 23 October 1999

Pan Pacific Masters Swim Champ.
Perth, Western Australia

29 Jan - 5 Feb 2000

South Pacific Masters Games
Wellington, New Zealand

5 - 13 January 2000

New Zealand Masters Games
Dunedin, New Zealand

21 - 23 April 2000

AUSSI National Swim
Gladstone, Queensland

27 July - 8 August 2000

FINA World Masters Swimming
Championships
Munich, Germany

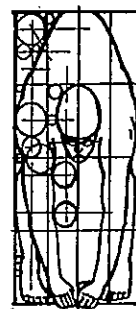
21 - 28 October 2000

Honda Masters Games
Alice Springs, N.T.

28 Oct - 5 Nov 2000

Asia Pacific Masters Games
Gold Coast, Queensland

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