



THE MASTERS ATHLETE

ISSUE 19 JUNE 98

A total fitness guide to optimise training and performance for the older athlete

ISSN: 1322-7831

WORLD MASTERS SWIMMING

Administration - back in the hands of Masters Athletes.

by Ivan Wingate (Executive Director, AUSSI Masters)

FINA, the World governing body of swimming, has a Masters Technical Committee to advise on technical matters and implement changes to assist the conduct of the biennial World Masters Swimming Championships. The committee is also ultimately responsible for the conduct of the Championships which embrace all disciplines: pool swimming, open water swimming, diving, water polo and synchronised swimming.

The committee of twelve was formed in 6 with six Members appointed by the FINA eau and six appointed by the now dormant MSI (Masters Swimming International). The first Chairman was AUSSI Masters Swimming's former National Secretary, Gary Stutsel, who was MSI President at the time.

A few years later, FINA withdrew the invitation to MSI to appoint half the committee and in time there were only a few left with Masters experience. There was considerable question about some of the ideas emanating from the committee in that time. Whilst the committee at the last change lost some of its very experienced Masters, I am pleased to report that the six new people, including yours truly, all come from a Masters background in the five different disciplines. Three are members of the LEN (European Swimming Federation) Masters Committee, another is the President of the Masters Committee of Africa and two are former national presidents of the New Zealand and Australian Masters Swimming organisations.

Our first meeting was in June last year in Casablanca, the host city for the Championships this year. I was honoured to be appointed head referee for the pool swimming. It is an honour, but I am not sure that I am looking forward to the challenge. The main pool is a magnificent stadium, but a bit small

for a major event such as this and when we saw it, in a poor state of maintenance. The Moroccan Swimming Federation assure us that all the updates requested, will be completed in time. The experience of their organising skills to date, leaves a little to be desired and that the Federation's membership is only about 1,500 one wonders how they will be able to handle an event for 3 - 4,000 people. Anyhow - Morocco is a great place to visit.

The Championships were awarded to Casablanca by the FINA Bureau, over a bid from Perth, Australia. Perth bid again for the 2000 Championships but lost to Munich, Germany. Obviously it has something to do with sharing them around - Australia has already had a turn in 1988. Perth has three 50 metre pools, one with ten lanes, plus two 331/3 metre pools. Munich has one eight lane 50 metre pool and a 25 metre warm up pool. The water polo is to be played in the nearby rowing lake. Casablanca's is similar in size, except that they have a nearby 50 metre pool for warm up and water polo.

The Championships this year will be the 7th. Past events have been:

CITY	PARTICIPANTS	COUNTRIES
TOKYO		
(JPN)	3,400	19
BRISBANE		
(AUS)	3,800	26
RIO DE JANEIRO		
(BRA)	1,743	34
INDIANAPOLIS		
(USA)	3,256	37
MONTREAL		
(CAN)	3,950	45
SHEFFIELD		
(GBR)	4,655	45

There are now about 160,000 registered Masters Swimmers world wide with about 8,000 in Australia. 142 Australians travelled to the last World Swim in Sheffield.

The first truly multi-national Masters Swims were held in Sydney, Australia in 1981 and 1983. They were the beginning of the Pan Pacific Masters Swimming Championships. There had been a few swimming carnivals organised in the seventies at which Masters Swimmers from the United States, New Zea-

land and Australia met together, and Canada held an open international event in 1978, but the "Pan Pacs" were open invitation to the Pacific Rim countries, whereas swimmers came from Europe too. Following on from them, the first World Masters Swim was planned by the newly formed MSI for Christchurch, New Zealand in 1984. Because FINA was now taking an interest in Masters it was re-titled "International" and 1108 swimmers from 16 countries participated. The next "international" was in Tokyo, Japan in 1986 had the joint sanction of FINA, so became the first "World" Masters Swimming Championships.

The Pan Pacs were re-introduced in 1989 in Indianapolis USA, and were to be held each

Continued on page 5

Editorial

Hello Readers,

Well we really threw the cat amongst the pigeons with the last issue. I wish we could say 'April fool' but unfortunately we were the fools. The date read Issue 15 Oct 97. It should have read Issue 18 April 98. Please change.

My apologies for the lateness of the last two issues. I'm now back working full time as a teacher, which means trying to do two jobs sometimes means I simply run out of time. However, you can always count on the issue arriving and being packed full of useful information, and this issue is no exception. Former World Single Sculling Champion, Adair Ferguson has written a very comprehensive article regarding nutrition and the masters rower (part 1 of 2). This article is very useful to all athletes. Thanks Adair for the effort you put into the article.

Andrew Johns, winner of the St George Triathlon Series has also penned some tips for all those triathletes. Which leads nicely into my next snippet - Dr Pete is on the way to becoming a true cyclist/triathlete. He has been proudly displaying his red badge of courage albeit with a limp. You guessed, he had his first fall.

Claire & Peter

THE MASTERS ATHLETE

Proudly supported by the Australian Sports Commission

Australian Sports
Commission

This Issue..

Administration back in the hands of Masters Athletes	1
Osteoporosis	2
Surviving Training for an Ironman Tri	3
Making the most of your Time	4
Shiftwork and the older athlete	4
What's Hot - IV Drips	5
Athlete Profile - Betty Menzies	5
Nutrition and the Masters Rower (1)	6
Swimming - Conserving Energy	7
Running - Should I run with a cold?	8
Wheel sucking is not a dirty word	9
From the Research	10
Triathlon Tips from the Top	11
Workout - Cycling	12



Osteoporosis and the Older Athlete

© by Dr Peter Reaburn

Osteoporosis is a crippling and irreversible disease that increases the risk of fracturing bone due to a lack of bone mass. It primarily affects older women who are postmenopausal and thus many older athletes. In fact the average woman loses 15% of her bone mass within five years of menopause. However, osteoporosis is just the culmination of a process that typically begins between 30 and 40 years of age - now that's a worry!

The purpose of this article is to discuss the factors crucial for preventing osteoporosis and particularly the role of exercise in managing this debilitating condition.

Factors affecting osteoporosis

The major factors affecting osteoporosis in the aging person are heredity, inadequate calcium intake, oestrogen deficiency and inactivity, with smoking, stress and certain medications impacting on the condition.

1. Calcium Intake

We can't do too much about what mum and dad gave us, but we can increase calcium uptake by a number of strategies. Firstly, eating calcium rich foods (dairy products, egg yolk, broccoli, sardines, tuna). Secondly, taking in vitamin D, lactose and adequate amounts of protein appear to enhance absorption of calcium. In contrast, diets high in fats and fibre may decrease absorption. Thirdly, coffee and alcohol appear to increase calcium loss so drink these in moderation. Older, postmenopausal women need to maximise calcium intake by eating between 1200-1500mg of calcium / day (see Table below) or supplementing, enhancing absorption by lowering fat and fibre in the diet, and limiting calcium loss by decreasing coffee and alcohol intake.

Supplementation is suggested to be taken at the rate of 200mg at meals three times a day. Taking the supplements with meals appears to increase the absorption of calcium because of the slow transit time and acidity of the gastric fluids. One big hit of say 600mg appears not to be as effective in calcium uptake by the intestine. Supplementation at more than 600mg / day is not recommended.

Table 1: Food sources of calcium

Food	Quantity	Calcium (mg)
Whole milk	200ml	250
Skim milk	200ml	250
Soy milk	200ml	230
Cheese	20g	160
Cottage cheese	100g	80
Low-fat yoghurt	200g	3
Ice cream	60g	80
Sardines	100g	330
Oysters	10	130
Almonds	50g	130

Recent research has also suggested that moderate training combined with calcium intake of about 1200mg / day helps increase bone mineral content in post-menopausal women. However, current evidence would also strongly suggest the need for vitamin D

supplementation and hormone replacement therapy as well for the older female athlete.

2. Oestrogen deficiency

This hormone is essential for optimal calcium balance in women. Following menopause, it's production is diminished. Hormone replacement therapy, particularly oestrogen therapy, may be the answer. See your family doctor, sports-minded endocrinologist, or sports physician for advice or a referral. Calcitonin, the hormone that helps deposit calcium in bone, has also been shown to be useful.

3. Inactivity or Too much activity?

Numerous studies have concluded that in both younger and older people, inactivity and in particular bed rest, decreases bone density significantly.

Recent research also suggests that too much (!?) endurance training may lower bone density. Heavy running and very intense exercise has been shown to lower bone density in young men and young women whose periods have stopped. In older postmenopausal female masters athletes the problem becomes even more pronounced due to the lack of oestrogen production.

Moderating training intensity or using water running for your quality workouts may be a solution.

Role of exercise

There is no doubt that regular exercise contributes to the prevention of osteoporosis by maximising bone density at maturity and maintaining it after 30-40 years of age.

A study of 25 women, 49-61 years old, found that those who jogged or played volleyball regularly had significantly greater bone density than those that did no exercise. Other researchers observed that 5-10 months of physical activity increased bone density in postmenopausal women but again suggested that exercise should not be seen as a substitute for oestrogen replacement.

Once an older person becomes osteoporotic, a number of studies have shown that moderate weight bearing exercise or weight training can halt or even reverse the bone loss.

a) Weight-bearing exercise

Brisk walking is the suggested exercise mode of choice. This makes it tough for the older female osteoporotic triathlete or runner. Low intensity running on a flat yet soft (grass) surface may be the go with the quality work done with a running vest in a pool.

A cramped bike position may cause low-

back sprains and vertebrae compression fractures in already osteoporotic women. Aero bars would therefore not be recommended in such women.

b) Weight training

The whole body should be stressed in the gym and done in a supervised setting on the machines. The following exercises are recommended:

- Hip extensions - glutes, hamstrings and lower back
- Lumbar extensions - lower back
- Leg extensions - quadriceps
- Leg press - glutes, hamstrings, quadriceps
- Pullovers - lats, shoulders, trapezius and abdominals
- Seated rows - lats, shoulders, biceps

Continued on page 4

The Team

PETER REABURN PhD - Editor

CLAIRE REABURN - Co-ordinator/Editor

The Masters Athlete is published every two months by Sports Performance Consultants, PO Box 61, CQU Post Office, Rockhampton, Qld. 4701 Aust. Information herein is solely for the guidance of our readers, and is not intended to substitute for professional or medical advice. Sports Performance Consultants disclaims responsibility or liability for any loss that may be incurred from the use or application of any information in *The Masters Athlete*.

SUBSCRIPTIONS

Individual \$33/yr Assoc/Clubs \$50/yr Overseas \$AUS44/yr (2 copies)

EDITORIAL CORRESPONDENCE

Sports Performance Consultants, PO Box 61, CQU Post Office, Rockhampton, Qld. 4701. Phone (07) 4926 5 269. E-mail: tma@cqu.edu.au

DESIGN & PRINTING

Claire Reaburn & CQU Publishing Unit.

PERMISSIONS

Contents of this issue copyright 1998 by Sports Performance Consultants. Reproduction of this publication in whole or in part is forbidden without prior written permission.

Surviving Training for an Ironman Triathlon

© by Dr Grant Schofield, Triathlon Research Initiative
Central Queensland University

The Ironman Triathlon is arguably one of the toughest single-day endurance events. A 3.8 km swim, a 180 km bike ride and a full (42.2 km) marathon run to finish things off. Many athletes find that the training required to prepare physically and mentally for this event is sometimes tougher than the event itself. This is particularly so when the difficult balancing act of work and family life is added to training. I give you some of my thoughts on what has been successful for me in getting this balancing act right and training to compete at my highest level in Ironman Triathlon. Here are some thoughts on a philosophy of living, training, and competing which I have found useful. Take what you can.

One day at a time

There is absolutely nothing I can do about yesterday's training or race. All I can do is look at it and learn from it and then put it away. Tomorrow's training or racing isn't here yet. So I will do what needs to be done today. Otherwise I will not worry about what is beyond my sphere of control.

2. Live and let live

Be prepared to ask yourself the important question everyday; why am I doing this? We have all heard of the basics of goal-setting theory. Set your goals - concrete and specific. Make sure you have a measurable outcome to decide whether you have reached your goals or not. It sounds pretty basic - but for me it is the cornerstone of life. The analogy of "imagine where a ship would end up if it took to sea without a destination and course set out of how to get there" is so true.

3. How important is it?

To me triathlon is the best sport out - "the only game in town". But in the final analysis it is just that - a healthy sport. I don't flagellate myself with unreasonable expectations. I have no control over the performance of others so how can I expect to come 1st, 2nd, or 100th in any particular race?

4. Easy does it

More and more training will not make me go faster either in the short or long term. The point of over-training is a point where energy and effort are wasted. Perhaps the best way to avoid this is to have someone other than yourself set your training schedule. It is very hard to be objective about yourself and how much is enough when you are immersed in long miles of preparation. The second best way is to listen to your spouse. If they tell you that you are tired and out of sorts, then you better believe them and take it easy. This is a great outcome for everyone. They are happier, you are less tired. You train better. You perform better.

5. Always listen, always learn

The moment you think you know it all is a dangerous moment. Even the absolute expert can learn something new. I choose my

equipment carefully. Look, listen, learn from others - use their resources as well as yours. Use your resources but don't abuse them.

6. Walk the walk

Put what is common knowledge into careful practice. You often hear the saying "don't just talk the talk, but walk the walk". This summarises the approach needed for overall success in preparing and competing in an all-day endurance event. Details are important. The small things like an extra hour's rest, a nutritious snack, a well-tuned bike, a weekly massage all are small on their own - but taken together they make a great deal of difference.

"MORE AND MORE TRAINING WILL NOT MAKE ME GO FASTER EITHER IN THE SHORT OR LONG TERM. THE POINT OF OVER-TRAINING IS A POINT WHERE ENERGY AND EFFORT ARE WASTED."

7. Don't worry, be happy

Participation in sport is a wonderful privilege. It's not an automatic right. Savour the fact that you have the ability, commitment, resources, and support to do what you do. My participation is not just the result of my hard work and commitment. It belongs to many others. Therefore, my success also belongs to many others who have also made sacrifices to get me to where I want to go. Don't forget those who helped you along the way.


8. You get out what you put in.

Am I doing my best? If I am doing my best I must be happy regardless. If I am not doing my best I must reorganise my life to allow my best effort in all parts of life. I am a firm believer that you get out of life what you

put in. So the simple answer to life must then be to put a lot in and get a lot out.

Obviously there will be times when things do get a little tough. However, for the most part you should enjoy your life - training and competing in events. If you do not then you should reconsider why you are doing it. A lot of people say to me when I am in a tough training phase that I "must be looking forward to getting back to normal life without all this training". But you know what? That is normal for me. It's what I like most. I also believe that the setting of a worthwhile goal and the working towards the accomplishment of that goal is where the real richness of life lies.

9. Life, psychology and everything

To the endurance athlete genetics are important. The metabolising engine which runs things is probably the most important factor in determining endurance performance. However, I have met many athletes who have had exactly the right genetics but have still never been able to reach their potential. I believe they lacked the psychological make-up to realise their physical potential. It is this "philosophy of living" that defines who we are and what we can ultimately achieve. My philosophy above is not necessarily the one which you should take. Its just one which works well for me. 

Wit & Wisdom

- By the age of 21, the average TV-viewing person in Australia will have spent the equivalent of *two years of their life* watching TV.
- Men have 10% more Red Blood Cells (RBC's) than women do. (This is perhaps the reason for the phrase "Red Blooded Male"!)
- The right hand is larger than the left in most people. (It's now clear why most people take with the right hand and give with the left!)
- The reason you can't fool all of the people all of the time, is because half of the people are women.

Nutrition for Masters Rowers

© Adair Ferguson, BSc, BA (Human Movement), MSc (qual.) Former World Lightweight Single Sculling Champion, C'wealth Games gold medallist, Sports Dev. Officer for ACT Rowing

Nutrition is a subject close to my heart. Apart from studying it at postgraduate level, I spent most of my rowing years as a half-starved lightweight, where every scrap of food that passed my lips was fully analysed on its nutritive value and fat/protein/carbohydrate content, as well as its taste. Many people thought I was quite obsessed and I suppose I was—but to maintain a body fat level of less than 9% and stay in one piece with enough energy to train and compete at an international level is not easy!

Not only did I have to make sure that the little I did eat was as packed with nutritional goodies as possible, but that it was eaten at exactly the right time for glycogen repletion and not stored as fat.

Now, with a more comfortable layer of fat on, I have relaxed a bit. I don't have to micro-analyse everything I eat, but by keeping to some basic guidelines I can still train and compete while keeping my weight stable, staying healthy and enjoying the pleasures of cooking, eating and even shopping for food.

I know that many other masters rowers are interested in, and realise the importance of, training and staying healthy while enjoying food, but are not too sure about the eating side of the equation. That gives me the perfect excuse to indulge myself by writing about some of the aspects of nutrition that I have learned.

Of course the basics of good nutrition apply to everyone. But there are some finer points specific to the masters rower so I'll highlight these where I can.

Why diet is important for masters

One of the most important aspects of diet for anyone, especially as we get older, is that a healthy diet becomes a **survival skill**. It sounds depressing, but as parents, friends and colleagues succumb to lifestyle- and diet-related illnesses, we should be planning for a long and active life.

Many of the most common life-threatening illnesses of today are related to diet. Coronary heart disease and cancer are the stand-out items. The good news is that eating good food will not only keep you alive longer but will help you train and race better.

Some assumptions

Masters rowers can range in age from 28 to 98 years old. They could be ex-internationals or absolute beginners. They may spend most of their days training or be so firmly tied up in job and family that they are lucky to train once a week. They may know a great deal or next to nothing about healthy eating.

Making pronouncements about nutrition is therefore verging on presumptuous. However I WILL be presumptuous and assume that most masters rowers train moderately hard, are reasonably fit and healthy, and like to (and should, in my view), keep a balance between their sporting activities and other aspects of their lives.

I will also make it easier for myself by assuming that we all have some knowledge about carbohydrates, fats and proteins, we know what glycogen and kilojoules are, and are generally aware of issues such as the need to limit fat and salt intake.

You may notice that I switch between kilojoules and calories at will when talking about energy values of food. I also switch between

metres, inches and feet in daily life, and suspect that many of you reading this do the same!

The basics

A healthy diet

For most masters athletes in Australia eating 'typical' Aussie food and trying to balance a 'normal' life with their athletic endeavours, I believe the key to doing the right thing diet-wise is to **decrease the quantity** of food being eaten but to **increase the quality** of what is being consumed.

How? As a starting point, let's refresh our knowledge of what constitutes a healthy diet by reminding ourselves of the grisly consequences of not following one. A healthy diet is:

- **low in fat, especially saturated fats.** Too much fat in the diet, particularly the saturated fats found in animal products, is a major risk factor for heart disease. Too much dietary fat is also closely linked to obesity. Fats provide over twice as much energy per gram as carbohydrates and proteins, hence a diet high in fat can easily lead to excessive caloric intake, with the excess calories being stored as—fat!

- **low in salt.** Diets high in salt are closely linked with high blood pressure, stroke and heart disease. Also, too much salt can affect your calcium status and may be a contributing factor to the high rates of osteoporosis found in Western society.

- **high in fibre,** i.e. lots of fresh food, fruit, vegetables, and unprocessed cereals. Low fibre diets can cause food to remain in the digestive tract for long periods, irritating the tract and causing

bowel or stomach cancer. Interestingly, fibre can coat fats passing through the gut, and hence limit the amount of fat absorbed into the body.

- **low in simple sugars.** Simple sugars (e.g. sweets, lollies) increase caloric intake without any other nutritive value (hence are often called 'empty calories'). High levels of blood sugar can overwork the insulin receptors, leading to diabetes.

One also should not forget one's teeth. Many athletes give their teeth hell by constantly filling their mouths with sweet sugary drinks or food. Dental caries are the inevitable result, and because it's something that takes a few years to develop it can be more prevalent in masters athletes.

- **moderate in total energy consumption.** Excess calories are stored as fat.

- **moderate in alcohol consumption.** Alcoholic drinks are generally very high in calories with little nutritive value. High alcohol consumption is a risk factor for heart disease and many forms of cancer. Conversely, light to moderate alcohol consumption has been shown to have a protective effect against heart disease.

Carbohydrates, fat, protein and the glycaemic index

Just what is the correct ratio of carbohydrate to fat to protein? For a healthy diet the generally recommended ratio (in terms of kilojoules) is around 55:30:15 and most sports dietitians would suggest a slightly higher percentage of carbos.

Continued on Page 9

Total Body Workout!

Concept II Indoor Rowers available from

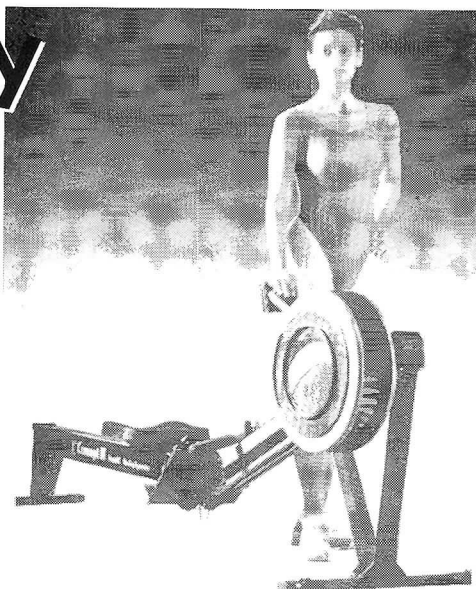
SYKES RACING



Riversdale Road, Newtown,
Geelong, Victoria. 3220

Ph: (052) 21 3655

Fax: (052) 21 2596



Conserving Energy

© by Dr Peter Reaburn - AUSSI Masters National Coaching Panel

In the previous two issues of TMA I examined the principles of minimising resistance and maximising propulsion in developing swim speed. In this issue I will examine how to most efficiently generate forward movement through the water.



Peter Reaburn

Introduction

There are four crucial principles involved in conserving energy in swimming:

1. Continuity of movement
2. Resting muscles during recovery
3. Apply forces evenly
4. Use appropriate joint angles and levers

The Principles

1. Continuity of Movement

Jerky movements through a stroke puts extra demands on our limited energy supply. Power in the pool depends on both the force produced and the velocity of that forceful movement. Therefore, it is in our interests to maintain both velocity and force. Many masters swimmers will have a "checking" motion before the hand, forearm and arm enter the water in back or freestyle in order to get a smooth entry of the hand into the water for the catch. In older flyers, many of them glide in front with the arms before taking the stroke. However, these actions slows limb movement which means extra energy is needed to accelerate those limbs again. Development of rhythm through drills such as two/three/four strokes - glide arm in front drills help get this rhythm.

Good formstrokers conserve energy by flowing the motion in one phase of the stroke continue into the next. For example, in butterfly, the double kicks keep the momentum of the body going so that when the arms begin to work, the velocity of the body is still being maintained by the leg work. In breaststroke, the arms should commence to pull at the completion of the kick to prevent a "dead spot".

2. Resting during recovery

Good swimmers avoid wasting energy by allowing muscles to relax during the non-propulsive parts of arm and leg movements. This is why Hackett, Thorpe and Perkins look like they are doing it easy - they are above the water - the grunt is under the water where it is needed!! Recovering easy allows the muscles to relax and prepare for the next contraction. This principle also suggests that the legs should only be used to maintain flotation and streamlining in freestyle rather than propulsive. The legs are a large muscle mass and use a lot of energy if used too vigorously. The arms in freestyle are the major energy producers.

3. Apply forces evenly

In distance events, it is far more efficient to apply a moderate force over a longer distance (stroke) than maximum force for a short time then die - we'll just get tired! The scull-

ing actions in all of the strokes enhance our feel and distance per stroke. Thus drills that scull outward, inward and backward are what's needed under the water to maximise distance under the water.

This might be a simplification of the biomechanics for sure but an important principle. Research has shown that the best swimmers maximise force production during the upstroke in fly and free.

"THE BASIC PRINCIPLES FOR FAST SWIMMING ARE MAXIMISING PROPULSION, REDUCING RESISTANCE AND CONSERVING ENERGY. OF ALL THE ENDURANCE SPORTS, IT IS THE MOST TECHNICAL AND THUS DEMANDS GOOD TECHNIQUE."

In order to achieve a pattern of increasing force, the rate of movement of the propulsive limb should increase throughout the stroke. Thus, in breaststroke, the speed of the kick is gradually built up to maximum at the end of the kick.

4. Use appropriate joint angles and levers

Muscles are generally in a weak position when joints are either very extended or very flexed. This is why the elbow needs to be high

and bent during the pull phase of each of the strokes. Swim "guru" Jim Councilman suggests the elbow should be bent at approximately 100 degrees in the pull phase of good freestylers to maximise the leverage at both the elbow and shoulder. I like to think of "reach over the barrel" as my cue for high elbows. This encourages a long lever by stretching out in front then getting the elbow up early in the stroke. This gets the pull phase of the stroke early into the stroke giving more time and distance for forward propulsion - watch the elite swimmers under water!

Conclusion

The basic principles for fast swimming are maximising propulsion, reducing resistance and conserving energy. Of all the endurance sports, it is the most technical and thus demands good technique. Spend the winter with a coach doing drills and try to apply these three principles. Always drill, then swim (eg. 25m drill, 25m swim). Once technique is improved, it's then time to get faster with that technique.

"THE PLAYERS MAKE THE COACH. THE COACH WHO THINKS HIS COACHING ABILITY IS MORE THAN HIS TALENT IS AN IDIOT."

JOE LAPCHICK - US COACH

SUPER SWIM ~ PRO

THE WORLD'S NUMBER ONE SWIMMING & AQUATIC TRAINING SYSTEM

NOW AVAILABLE IN AUSTRALIA

Currently used by athletes and water enthusiasts in over 30 countries! Endorsed by: Olympic Coaches, Gold Medalists, World Record Holders, Tri-Athletes, Water Aerobic Instructors, Therapists, Doctors and Trainers

Catch the Vision of the 90's for Health and Fitness

SUPER SWIM guarantees the ultimate water workout:
Be on Top of the Swimming Wave of the Future.
Swim a mile and never make a turn.

The SUPER SWIM secret is progressive hydro resistance. The flexible "fiberod" and restraining/safety belt prevents the swimmer from moving across the pool, yet permits a natural swimming motion using all strokes. the harder you swim, the more resistance experienced, giving you exactly the workout you want in one-half to one-third the time of lap

- Build strength
- Increase endurance
- Great stroke corrector
- Family fun for all ages
- Expand swimming skill
- Water walking or running
- Proven high calories burner
- Total body fitness in less time
- Great as teaching aid for beginners
- Take the turns out of lap swimming

Makes any pool seem as large as an Ocean!

SUPER SWIM comes in 3 different anchors: (all anchors include the fiberod & nylon adjustable belt)

- A permanent "in deck" anchor (installation kit included)
- A "Quick clamp" portable anchor (for standard high rails and ladders)
- An "Above ground" pool anchor (fits most above-ground pools 4 ft. deep)

FOR MORE INFORMATION CALL: (07) 3841 3418
The Masters Choice P.O. Box 47 Underwood, Qld. Aust. 4119.

From the Research

Smoking and Government Income

State and Federal governments are always increasing smoke taxes in an effort (we think) to decrease smoking rates in the community.

A recent paper aimed to compare the benefit and costs of smoking from the government's perspective during a one-year period. The researchers from the University of Newcastle here in Oz estimated that in 1989-90 an average smoker cost the government \$203.57 while the benefits the government received totalled an average of \$620.56 for the same year.

From a cost-benefit perspective, it would appear that the objective of raising monies from smoking is more a priority than reducing smoking rates.

Doran et al., (1996). *A cost-benefit analysis of the average smoker: a government perspective*. Aust N Z J Public Health, 20, 607-11.

Long or short sleeve wetsuits?

Scientists from the US Olympic Training Center in Colorado recently compared the oxygen uptake, breathing and heart rate responses during freestyle swimming in togs then three different wetsuits (3-4mm) - a full body wetsuit (FULL), a wetsuit that had long legs but arms exposed (LONG), and one that left the arms and lower leg exposed (SHORT). The five experienced swimmers swam at four velocities ranging from 55 sec/50m to 38sec/50m in a swimming flume at 26 degrees C. Each of the wetsuit swimmers produced lower oxygen consumptions and breathing volumes at all test speeds compared to the togs only swimmers. The heart rate was lower in the wetsuits only at the highest speed. Comparing the wetsuits, oxygen consumption and breathing volumes were lower in the full wetsuit compared to the short wetsuit at all velocities. There were no statistical differences in oxygen consumption and breathing volumes between the short and long wetsuits or the long versus full wetsuit. However, the results showed that the greater the amount of wetsuit covering the body, the less oxygen consumed at any speed. The oxygen consumptions and heart rates at the fastest speed were: togs (2.6L/min, 143bpm); short (2.2L/min, 133bpm); long (2L/min, 130bpm) and full (1.8L/min, 127bpm). Got a wetsuit? Use it. The longer the better.

Trappe, T. et al. (1996) Physiological responses to swimming while wearing a wet suit. *International Journal of Sports Medicine* 17(2), 111-114.

Fat-loading versus Carbo-loading

A number of recent scientific studies are suggesting a high fat diet in some well-trained endurance athletes may enhance performance in events longer than four hours. A recent review of these papers suggested that the consumption of a high fat diet for 3-7 days results in decreased exercise time to exhaustion at around 80% of max heart rate compared to a high carbo diet. However, in SOME well-trained individuals, 7-14 days of a high fat diet might enhance performance. These improvements are associated with lower muscle carbo stores but a reduced use of carbo during exercise and a greater use of fat. In summary, the researchers suggest that in ultra-endurance events longer than four hours where fats make a significant contribution to energy production, an athlete might train most of the year on the high carbo diet then adapt to a high fat diet for the 7-14 days prior to a major event. Food for thought!

Hawley, J. et al. (1997) Effects of high-fat diets on exercise performance. In *Advances in training and nutrition for endurance sports: from theory to practice*. The Netherlands, 1997.



ASIA
PACIFIC
MASTERS
GAMES

Queensland
Events

A S P A C

Gold Coast City Council

GOLD COAST • AUSTRALIA
31 OCTOBER TO 8 NOVEMBER 1998

For further information on this exciting event
Games Info Line: (07) 5564 0640 Fax: (07) 5564 0498
Email: aspac@mastersgames.com.au

ASPAC '98 - THE GAMES

Nutrition and the Masters Rower continued from page 9

To get the nutrition you need too many calories end up being consumed that are not balanced by an increase in activity. The inevitable result is an increase in body fat. Also, many masters rowers tend to eat carbs as though they were elite rowers, but forget that they are not training or racing quite as hard as elite rowers, and the race distance, at 1000 m, is half what it used to be. The inevitable result is that the boat sits a little lower in the water whenever you get in it.

Most people equate pasta or bread with carbs, and so they are, but there are many other carbohydrate foods that are packed full of vitamins and minerals. Sweet potato is a perfect example: 14.1 g of carbs per 100 g and high in Vitamins A, B and C, compared to the ever-popular pasta which has 24 g of carbs but negligible amounts of either vitamins or minerals. The mighty banana has 21 g carbo per 100 g with loads of potassium, magnesium and Vitamins A, B and C. No wonder the cyclists live on them!

The moral of this story? Have a break from the same old pasta meals for carbo loading. Just because a food is high in carbohydrates doesn't mean it's the bee's knees. Think quality carbohydrates!

Protein

Long regarded as unfashionable, the role of protein in an athlete's diet is now being reconsidered.

Bodybuilders have never forgotten that protein provides the major building blocks for muscle development, and helps the muscles and tissues to recover from strenuous exercise. But even endurance athletes should consider that protein in their muscles gets broken down for energy when they are low in glycogen; that is when they have been exercising for more than an hour or two. If you train very intensely or several times per day it is not enough to simply replace the glycogen with lots of carbohydrates—you should ensure that some of your post training/racing snacks have some foods high in protein.

There are plenty of different types of protein foods, but the trick is to choose ones that are low in fat. These could be low fat yoghurt or cottage cheese, fish, lean

Continued on page 12

Triathlon Tips from the Top

© by Andrew Johns B. App. Sci. (Ex. Man.)
Winner of the St George Triathlon Series

The following are ten points that I think are important to getting to the top in the sport of triathlon.

Consistency

The difference between being a good athlete and a great athlete is consistency. I see so many people who train like a champion for a few days and then have to take a few days off to recover, they never seem to improve much. All the champions I've trained with are the one's that back up day after day. Every session is a good session and even their bad session would still be a great session for most people.

Never under-estimate yourself.

One of the biggest lessons I've learnt over the last few years is that you don't have to feel great to have a great race or a great training session. It's so easy to talk yourself down or talk yourself out of doing a session. "I'm tired, I feel terrible, I'll probably be better off having a rest." **Wrong!** Get out there and give it a go. I've had some of my best races starting off feeling like death warmed up.

Story time - Just a few months ago, my coach thought it would be a good idea for me to do a long course race. Problem was he told me 3 days before the race. At this stage we'd be hammering all week and I could barely walk after finishing a killer 20km track session on Thursday morning. No problem, 2 easy days and I should be ready to race. **Wrong!** My coach had different ideas. So we did a hard 90 km ride in the hills that arvo and then another 20km on Friday morning just to make sure the legs were really trashed. To make sure my arms were tired as well, we did a solid 6km swim on Saturday morning. Walking around the expo on Saturday lunchtime, I was bumping into old friends all over the place. Naturally they were asking me how I felt. Not one to lie, I told them I felt terrible and my legs were trashed. By the end of the expo, I was almost believing I had an excuse not to perform. Most of the other members of my squad were in a similar position.

Our coach picked up on the vibes of our collective negative thinking and gave us all a bit of a 'pep' talk. The gist of it being, stay positive, give it your best shot and most important be honest with yourself. So I did the race, the end result my first Australian title. Jo and Beth got the quinella in the women's, not bad for three very sore and tired bodies. It was a huge lesson for me, the body is an amazing instrument, keep positive, go for it and you may just surprise yourself.

Avoid becoming stale (give yourself new stimuli).

A lot of athletes I know that have had a poor season or bad form usually result from the fact they are no longer enjoying their training (for one or more reasons). This situation must be avoided at all cost. Varying your training regularly helps avoid this. You can vary the structure, your environment or both. Don't be afraid to change. Some people are so set in their routine. They would never dream of changing it, but often this is exactly what they need to do. Try training with different people or different groups, you can learn lots of things from everyone.

Rest (the most important aspect of a training routine).

Stress comes in various forms and is very draining on the body. Physical stress resulting directly from your training is only one of its many forms. When you have had a particularly stressful day in the other areas of your life (work, personal etc) this impacts greatly on your ability to train in your normal fashion. Don't be afraid to take the day off completely or replace a hard session with an easy one. You can't burn the candle at both ends and get away with it (not for extended periods of time anyway). An easy aerobic workout will often help reduce your stress levels while a hard anaerobic session will only add to your stress levels.

Set yourself goals (make them challenging yet attainable).

Setting goals regularly helps keep you focused and motivated. Especially during a

tough patch or in sickness or injury. Setting goals will help get you through these times. You should set both short term (days, months) and long term (years).

Don't be afraid to fail.

If you never have a go, you'll never never know. Why worry about things you have no control over. Be positive and give it a crack.

Enjoy now and then test yourself.

Every so often I think it is important to do what I call a 'character test'. Go and test your limits, push your barriers both physically and mentally to a new level. Set yourself a workout where your exit point is when you can't possibly do anymore. For example run 200m leaving every one minute running them under 36 sec. Do as many as you can until you can't make the time. You'll be surprised how much a mental test this is.

You can't push the red line every day.


You don't have to go flat out every session to improve. In fact if you do this, it will only be a matter of time before you start going backwards. A good guide that I follow is I only go above the red line (anaerobic), two or three times a week and for no longer than 10-15 mins a time. That's two to three times in total, not for each discipline.

Effort is more important than speed or distance.

Don't become caught up in the mileage game, ie. I've got to do my 400km on the bike this week. Often you end up doing garbage miles to get the extra km's up. Go by time and HR and throw away your cycle computer.

A tip from someone who really is at the top. One of the talented athletes in our training group, 2 times World Champion Jackie Gallagher. Do your best and then try and do it better.

All I can add to this is, be happy if you have done your best. There is tremendous satisfaction in feeling really proud that you've given your all and done a great job.

Enjoy your training and your sport. 

Get Set!

Calendar of Events

June 21-30 1998

World Masters Swim Champ.
Casablanca, Morocco
Contact: (08) 8344 1217

August 9 - 22 1998

Nike World Masters Games
Portland, Oregon, USA
Contact: (08) 83441217

October 19 - 27 1998

Honda Masters Games
Alice Springs, NT
Contact: (089) 515 329

October 31- Nov 8 1998

Asia Pacific Masters Games
Brisbane, Qld
Contact: (07) 55640480

March 13-20 1999

Riverland Masters Games
Riverland Region, SA
Contact: 08 83537755

May 1999

AUSSI National Swim
Darwin, N.T.
Contact: (08) 834 41217

Sept. 25 - Oct 3 1999

7th Aust Masters Games
Adelaide, SA
Contact: 1800 655 706

Nutrition/Rowing continued from Page

meat, chicken or even soybeans or lentils.

Perhaps surprisingly, many cereals contain significant amounts of protein. Wheat is about 11% protein, and rice and corn have about 6-8%. Even some vegetables contain protein—broccoli has about 5% and brussel sprouts 4%.

Fats

There is little argument that fats should be kept to a minimum in a healthy diet. However they are not total baddies. Vitamins E and A are stored in fat, and a diet too low in fat would lack these. Also, fat gives a feeling of satiety and makes food taste better.

Athletes training many hours daily may need more fat-rich or energy dense food so they can actually consume the calories necessary without too much bulk or having to spend too many hours eating. In fact the Australian Institute of Sport is now conducting a study on high fat diets for athletes. I'll keep you posted!

Most western diets are very high in fat anyway, and most of us need to reduce our fat intake rather than increase it. We get so many fats in our diet without realising it. That oily topping on your pasta on carbo loading night, those corn chips, the toasted muesli (35% fat), biscuits, muesli bars...

There is a good reason that we like fat so much. It was an evolutionary advantage in that fatty foods are energy dense, so it doesn't take as long to eat enough for your basic energy requirements. A caveman could 'fuel up' quickly and would then have more time to run, hunt, fight or think. The trouble is that the fat that was advantageous in caveman days is now, in an age of convenience foods and supermarkets, distinctly dangerous to our health. Our primeval urges are leading us to early deaths from heart disease and other obesity related diseases.

This topic is obviously very dear to Adairs heart. As this article is packed full of information we have decided to break it into two parts rather than edit. Part two will include information on eating before racing, fitting eating into your day, eating to recover, and an eating plan for the masters rower.

WORKOUT - CYCLING

This section of TMA is devoted to outlining sample training sessions aimed at achieving maximal benefit from minimal time.

Anaerobic Threshold Cycling Sessions

The following sessions are designed to be used about six weeks out from a major endurance race and assume the cyclist has a base of easier and longer work at E1 and E2 intensities.

	Novice	Intermediate	"Guns"
Warm-Up	* Stretch * 10 min 42/17-19 * 5x15 sec 53/17-19 30 sec 42/17-19 * 3 mins easy spin	* Stretch * 10 min 42/17-19 * 5x20 sec 53/17-19 30 sec 42/17-19 * 2 mins easy spin	* Stretch * 10 min 42/17-19 * 5x30 sec 53/17-19 30 sec 42/17-19 * 1 mins easy spin
Workout	* 4x5min big ring E3 (HR 85-90%Max) 3 min spin recovery	* 6x5min big ring E3 (HR 85-90%Max) 2 min spin recovery	* 4x10min big ring E3 (HR 85-90%Max) 3 min spin recovery
Cool Down	* 10 min E1 small chain ring * Stretch	* 10 min E1 small chain ring * Stretch	* 15 min E1 small chain ring * Stretch

Why Coach?

Warm-up: Stretching improves flexibility in joints. An easy cycle warms the muscles, ligaments and tendons, protects against injury, increases blood and oxygen delivery to the muscles from the heart and prepares the body and mind for the work ahead. The efforts in the warm-up specifically prepare the muscles and nerves for the quality efforts in the workout.

Main Set: Every workout must have a purpose. The session above aims to develop the anaerobic threshold so important to maximising aerobic endurance and race performance. It is crucial that the quality of each piece is good and that the cadence and heart rate are maintained throughout each interval. The pace is "hurt but hold". Go out too fast, you'll blow up and have to slow down or take a longer rest; go out too easy and you are not gaining the benefits of the workout. A consistent and strong pace is the key.

Cool-down: An easy spin lowers heart rate, redistribute blood around the body, lower blood acid levels and remove other metabolic by-products from the muscles and blood. Stretching returns muscles, ligaments and tendons to resting lengths.

Subscribe now to 'THE MASTERS ATHLETE'

All subscriptions are based on a Feb 1999 renewal date. Therefore, your subscription is calculated as follows:

Please circle the months you wish to receive:	June 98	Aug 98	Oct 98	Dec 98	Feb 99
Individual Rate:	\$5.50	\$5.50	\$5.50	\$5.50	\$5.50
Assoc/Clubs Rate (2 copies/issue):	8.35	8.35	8.35	8.35	8.35
Overseas Rate (Aust. dollars):	7.35	7.35	7.35	7.35	7.35

_____ no. of mths x _____ rate = \$ _____

Name: Address:

Town: State: P/Code: Phone:

Sport/s: Gender: Age:

Make Cheques or Money Order payable to 'Sports Performance Consultants' and attach to this form.

Send to: Sports Performance Consultants, PO Box 61, Central Queensland University Post Office, Rockhampton Qld 4701

For more details phone Claire Reaburn on (07) 4926 5269