

STROKEARCS

The Newsletter of the Association of Rowing Coaches, South Africa

No 15 June 2007

TABLE OF CONTENTS

Coaching – Why Do We Need a Coach/Teacher	2
<i>By Dr. Romanov, January 23, 2007. From http://www.posetech.com/training/archives/000424.html</i>	
Successful Coaching – Gaining and Maintaining Credibility	2
<i>By Gregory A. Dale, Ph.D. Duke University From Olympic Coach Winter 2005</i>	
Strength Training – Strength Training For Women: Debunking Myths That Block Opportunity	4
<i>By William P. Ebben, MS, MSSW, CSCS; Randall L. Jensen, PhD From The Physician and Sports Medicine- Vol. 26 - No. 5 – May 98</i>	
Training Programs – The Basis for Writing a Training Program	8
<i>By Robert Marlow, Published in Australian Rowing, December 1988</i>	
Flexibility – Mobility Training	10
<i>From http://www.rowingsouthland.co.nz/coaches.html</i>	
Sports Medicine – Keeping the Bugs at Bay during the Winter Season	12
<i>Dr David Nieman From Coaching Australia. Vol. 9. No 1. August 2005</i>	
ARC MEMBERSHIP APPLICATION FORM	14
All articles available online at www.arcrsa.blogspot.com	



COACHING

WHY DO WE NEED A TEACHER/COACH

How do we learn everything? Obviously, in everyday life there are lots of things we can learn by - books, manuals, instructions, and sometimes just by common sense. It refers to learning to work on a computer, cooking food, assembling some simple gadgets at home, using some machinery, etc. Even exercises could be learnt by video/book instructions.

Last several decades saw the development of ideas in health and wellness by using exercise and fitness which are now accepted as a part of everyday life. Sport education materials are produced on a high business level. It almost eliminated the necessity of having a teacher or a coach in our learning of exercises. Is it indeed so?

Could these wonderful books and videos produced by these teaches/coaches completely substitute hands-on work? What value does the teacher bring which is impossible to substitute? After working in the educational field for more than 40 years and studying the science of teaching and learning, I can attest that the question of the necessity of a teacher/coach for learning something important in your life is not really a question, but a well-accepted reality.

Indeed, why genius Plato was a student of Socrates, and then genius Aristotle became a student of Plato? I guess there was something important that could be taught only by a teacher. Something imperceptible which comes only from the teacher's knowledge, something coming from the heart and soul, which we sometimes couldn't even express in words, something that gives everything a personal touch.

Certainly, we can progress far with our skill of writing and will be able to build visual and logical meaning of what we would like to teach, but something will always be missing there and require your teacher's presence. This "something" is a translation of multi-dimensional possibility of movement into a clear visible, perceptible and performable personal reality of movement.

The teacher is a translator and guide of your movement, who knows the road map to your goal, who is with you in "the car" during your driving, correcting your smallest deviations from the right direction before you get deep into unknown field. The teacher is someone who is with you, when you got into a dark area and lost your understanding of right and wrong, and who gives you a personal emotional and mental support through all your hard times.

Your teacher is someone who shares the moment of excitement when you reach your goal and someone who takes your psycho-emotional pain when you fail, and

help you to get your hope back and keep moving forward.

The teacher is your friend and healer, your support and knowledge provider, your inspiration and consolation, your adviser and corrector to whom you can complain not only about your errors in movement and pain in your body, but also about why life is not fair. I do understand that it may take time to find the teacher who will fit your expectations, but he/she is out there waiting for you to help you make your dream come true.



SUCCESSFUL COACHING GAINING AND MAINTAINING CREDIBILITY

If you want to build an atmosphere in which everybody pulls together to win, then you, as a leader have to recognize that it all starts with you. It starts with your attitude, your commitment, your caring, your passion for excellence, your dedication to winning. It starts with the example you set. It starts with the way you treat and relate to your athletes.

Pat Williams, Senior Executive Vice President, Orlando Magic

Have you ever wondered why some coaches achieve so much success with their athletes and teams — winning and gaining everyone's respect along the way - while others continually fall short or struggle to get their teams or athletes to perform at a consistently high level? If you are like most coaches, you have probably asked yourself questions such as the following:

- How do some coaches consistently get the most out of their athletes while others have athletes who chronically underachieve?
- How do some coaches gain their athletes' confidence, trust, and respect while others have athletes who never buy into them and what they are trying to accomplish?
- How do some coaches inspire their athletes to compete with confidence, aggressiveness, and mental toughness while others have athletes who routinely crumble and choke under pressure?
- How do some coaches get athletes to willingly "run through walls" for them while others have athletes with little commitment, no work ethic, and bad attitudes?
- How do some coaches inspire a sense of loyalty and pride in their athletes while others have athletes who want to quit, or worse yet, instigate a revolt and try to get their coaches fired?

In my work as a sport psychology consultant, I have come to the realization that the most successful coaches

are those that not only win most of the time but also are able to develop meaningful relationships with the athletes they coach. In other words their athletes respect them and willingly “put it on the line” for them when asked.

Following are seven characteristics that successful coaches and their athletes have identified as being essential for a coach to have credibility with their athletes and ultimate success. As you read these characteristics, I hope you will honestly examine the way you coach. Ask yourself if there are any areas that need attention.

Remember, you continually ask your athletes to work on aspects of their games that are lacking. It seems to only make sense that you would do the same for yourself if you want to improve.

**CHARACTER
THESE COACHES:**

- Do what they say they are going to do. They don't tell athletes one thing and then do another.
- Are honest with athletes regarding their roles on a team. They don't promise things that they can't deliver.
- Follow the rules as they are written and don't look for ways around those rules to have a better chance to win.

**CONSISTENT
THESE COACHES:**

- Are consistent in the way they administer punishment. They don't show favoritism toward better athletes.
- They don't have a “doghouse”. Disagreements are dealt with and everyone moves on in a productive manner.
- Are consistent in their mood and the way they approach their athletes on a daily basis. They don't take things out on their athletes.
- Create an environment where their athletes know what to expect from them. There are no petty mind games.

**COMMUNICATOR
THESE COACHES:**

- Make sure their positive/instructive comments outweigh the negative comments.
- Are proactive. They seek out athletes and check in with them vs. waiting for problems to arise.
- Truly have an active, open door.
- Clearly communicate with athletes and staff about roles, expectations and standards. They make no assumptions.
- Focus on really listening to players.

- Seek input from team leaders on key decisions. Athletes feel like they can come and talk to them.

**CARING
THESE COACHES:**

- Act as servants. Athletes feel like the coach would do anything for them regardless of their talent.
- Take a genuine interest in the athletes' lives away from the sport.
- Treat athletes as more than just a group of individuals who can help the coach move up the career ladder.
- Forge long-term relationships with their athletes. There is a sense of loyalty for life.



**COMPETENT
THESE COACHES:**

- Know their sport inside and out, but are also human enough to admit when they are wrong.
- Keep up to date with the latest advances.
- Always learning and willing to look for new ideas.
- Their athletes improve from the time they entered their

program to when they finished, no matter how good they were when they started.

**COMMITTED
THESE COACHES:**

- Have a clear vision for the program and are able to communicate that vision to athletes.
- Are passionate/invested. They are committed to putting in the time. They come early and stay late.
- They aren't afraid to list their secrets of success because they know no one will outwork them.
- Have a competitive fire. They are highly competitive individuals.

**CONFIDENCE BUILDER
THESE COACHES:**

- Are inspiring. They sell athletes on themselves. They create and maintain hope and optimism. They also plant seeds of greatness
- Know that athletes want to feel appreciated, valued, competent, and important. Great

coaches make athletes feel good about themselves.

- Realize that confidence is fragile and they are willing to praise athletes in public and criticize in private (never publicly embarrassing them). They catch people doing things right.
- Are appreciative. They share credit with staff, especially acknowledging the “little” people.
- They have the mindset that the athletes are the ones who really win games, not the coach.

Gaining and maintaining respect and credibility with your athletes is vital to ultimate success. Great coaches are great because they see the importance of credibility and respect. They know how fragile they are and work hard to maintain them. Where are you in your journey to becoming one of the great coaches?

In conclusion, I would like you to consider how you want to be remembered by the athletes you coach. Every athlete that competes for you will remember his or her experience with you and your coaching for something. When you think about it, your coaching career is relatively short in the whole scheme of life. Whether you involved for a few years or dedicate much of your life coaching, the time you have available to impact people is relatively short. Essentially, your career is the “dash” between your first and last day of coaching (e.g., 1995-2035). “It’s an inch.” It is very short.

Therefore, it is imperative that you invest your time wisely and determine what you will do with the “dash” you have been given. How are you going to coach during those years? What legacy would you like to leave behind after you are gone? What would you want the important people in your life to say about you when celebrating your career at your retirement banquet? The following is a poem that seems very appropriate when thinking about your legacy.

Poem: How You Live Your Dash

*I heard of a man who stood to speak at the retirement banquet of a coaching friend.
He referred to the dates of the coach's career from the beginning....to the end.
He noted the first and last day of the coach's time and spoke the dates with tears.
But he said what mattered most of all was the dash between those years.
For that dash represents all the time that he spent coaching on earth.
And now only those who loved and played for him know what that little line is worth.
For it matters not how much we win; the trophies...the records...the cash, what matters most is how we live and love and how we spend our dash.
So think about this long and hard...are there things you'd like to change?
For you never know how much time is left that can still be rearranged.
If we could just slow down enough to consider what's true and real and always try to understand the way our athletes feel.*

And be less quick to anger and show appreciation more and love the people in our lives like we've never loved before.

If we treat our athletes with respect and more often wear a smile, remembering that this special dash might only last awhile.

So, when your coaching career comes to an end with your life's actions to rehash...would you be proud of the things your athletes say about how you spent your dash?

Adapted for coaches by Jeff Janssen and Greg Dale from “The Dash”, a poem by Linda Ellis of Linda's Lyrics www.lindaslyrics.com

REFERENCES

This article is based on the book:

- Janssen, J. & Dale, G. (2002). *The seven secrets of successful coaches: How to unlock and unleash your team's full potential.*
- Tucson, AZ: Winning the Mental Game.

About the author

Dr. Greg Dale is a Professor and Sport Psychology Consultant at Duke University. As a professor Greg teaches and conducts research in the areas of Sport Psychology and Sport Ethics. As a sport psychology consultant, Greg helps coaches and athletes develop systematic approaches to the mental aspects of performance. In addition to his work with athletes and coaches at Duke, Greg is a member of the sport psychology staff for USA Track and field and consults with athletes and coaches in professional football, soccer, baseball, golf and tennis. To find out more about Greg and his work, visit www.excellenceinperformance.com.



ASSOCIATION OF ROWING COACHES, SOUTH AFRICA

STRENGTH TRAINING

DEBUNKING MYTHS THAT BLOCK OPPORTUNITY

In Brief: Traditional gender roles and differences in absolute strength have resulted in misconceived approaches to strength training for women. Male physiology, more than hormones, explains men's superior absolute strength. When other measures of strength are used, such as strength relative to cross-sectional area of muscle, the strength of men and women is nearly equal. Women who practice the same well-designed strength training programs as men benefit from bone and soft-tissue modeling, increased lean body mass, decreased fat, and enhanced self-confidence.

Although American women first began strength training for sports in the 1950s to improve their performance in track and field, they have traditionally participated in strength training less than men. Such exercise has not

been considered feminine, and a lack of research and information regarding the effects of such training on women has made it a predominantly male activity. Women's participation was particularly limited until 1972, when Title IX mandated equal access to educational programs—including athletics—for men and women in schools that receive federal funding. Since then, women's sports participation has burgeoned, traditional gender roles have loosened, and strength training has grown in popularity among active women.

Nevertheless, the social stigma and lack of accurate information persist and feed misconceptions that keep women away from strength training or prevent them from training in optimal ways (see "Dispelling Misconceptions," below). Though gender differences regarding absolute strength exist, women are as able as men to develop strength relative to total muscle mass. Consequently, women should strength train in the same ways as men, using the same program design, exercises, intensities, and volumes, relative to their body size and level of strength, so they can achieve the maximum physiologic and psychological benefits.

Gender Stereotypes

Our culture has traditionally viewed strength as a masculine trait and promoted a small, frail body as feminine. Consequently, girls have been discouraged from participating in gross-motor-skill activities and strength development. Such sex role stereotypes, formed early in childhood, can dictate behavior and limit women's and men's ability to express their full humanity. This means that some women may have never achieved their potential for physical well-being, fitness, and athletic participation.

The advent of the women's movement in the 1970s allowed many women to overcome such traditional socialization and participate more freely in sports and strength training. However, change occurs slowly, and physical strength and strength training are still not as common or accepted for women as they are for men.

A Gender Gap in Strength?

Research (1,2) on male and female strength potential reveals that women possess about two thirds of the strength of men. However, the measurement of strength in absolute terms fosters misconceptions about the strength of women, how women see themselves, and the way they exercise.

What causes this strength difference? Are there ways to conceptualize strength that affirm women's potential and encourage their development?

The role of hormones. Hormones play a role in the development of absolute strength in men and women, but the exact influence is not clear. The androgens that come from the adrenal glands and ovaries are the hormones most likely to influence strength. The most important androgens for strength development are testosterone and androstenedione. The absolute androstenedione response to weight lifting is similar in females and males (3).



The role of testosterone in strength development is complex and significantly more variable than that of androstenedione. Though women on average have about one tenth the testosterone of men (4), the level of testosterone varies greatly among women and influences women's strength development more than is typical in men (3). Women who have higher testosterone levels may have a greater potential for strength and power development than other women. An individual woman's testosterone level fluctuates, so a woman who is near the upper limit of her testosterone threshold may have an advantage in developing strength compared with other women. Though hormones may influence strength development potential among women, they most likely do not account for significant male-female differences in absolute strength.

Physiologic factors. Physiologic differences such as size and body structure are more likely explanations for the average absolute strength differences between men and women. For example, the average American male is about 13 cm taller than the average female and about 18 kg heavier. Men average about 18 to 22 kg more lean body mass and 3 to 6 kg less fat than women. Men typically have a taller, wider frame that supports more muscle, as well as broader shoulders that provide a greater leverage advantage.

The Strength of Women

Strength, however, should not be viewed in absolute terms. The gender differences in absolute strength, for example, are not consistent for all muscle groups. Women possess about 40% to 60% of the upper-body strength and 70% to 75% of the lower-body strength of

men (3). Men may have an advantage in neuromuscular response time that results in greater force production speed than women (5). However, the distribution of muscle fiber types--fast and slow twitch--is similar in the two sexes, and women are able to use a greater portion of stored elastic energy than men during activities in which muscle is prestretched, such as in the countermovement prior to jumping.

More significantly, if the amount of lean body mass is factored into the strength equation, the relative strength difference between men and women is less appreciable. Based on a strength-to-lean-body-mass ratio, women are about equal in strength to men, and when strength is calculated per cross-sectional area of muscle, no significant gender difference exists. For example, a 15 cm² cross-sectional area of an arm flexor has about 19 kg of force for both women and men (6).

Measuring strength in this way suggests that muscle at the cellular level has a force development capability independent of sex and that women benefit from strength training at least as much as men. Hence men and women should follow strength training procedures that include periodization--variations in the resistance training program that are implemented over a specific time--and exercise performed at intensities and volumes suited to physical ability and level of strength conditioning. Ultimately, each athlete should be assessed as an individual, and training programs should meet individual needs and goals, rather than those based on preconceived ideas about gender.

The Benefits for Women

Women benefit from strength training in several ways (table 1).

Table 1. Strength Training Benefits for Women*

- Enhanced bone modeling to increase bone strength and reduce the risk of osteoporosis
- Stronger connective tissues to increase joint stability and help prevent injury
- Increased functional strength for sports and daily activity
- Increased lean body mass and decreased nonfunctional body fat
- Higher metabolic rate because of an increase in muscle and a decrease in fat
- Improved self-esteem and confidence

-A number of factors may reduce or eliminate these benefits, including the exclusive use of weight training machines, training with loads that are too light, and not progressing in resistance or intensity.

Bone and soft tissue. Women, more than men, need to meet the minimal essential strain required for bone modeling to occur and ultimately for reducing the risk of osteoporosis. Prevention of osteoporosis requires above-normal axial skeletal loading (7,8). The strain tolerance for skeletal bone is believed to be more than 10 times the typical load that humans bear in daily activities (9). Since bone modeling is proportional to the degree of overload (the amount of stress applied beyond the normal load), the greater the overload-- within limits-- the greater the amount of bone modeling. Bone

modeling helps prevent fractures and insure against osteoporosis.

Cartilage, tendons, and ligaments also have minimal essential strain requirements. Optimal strength development requires loads and intensities that progressively increase the training stimulus or stress. Strong cartilage, tendons, and ligaments are essential for joint integrity, stability, and injury prevention.

Lean body mass and fat. Strength training also increases lean body mass and decreases fat; this results in less nonfunctional fat to carry and a greater proportion

of lean body mass, which can provide functional strength. Compared to fat, muscle is metabolically active and increases metabolic rate, fat oxidation, and calorie consumption. Increased muscle mass and muscle cross-sectional area also correlate with increased strength. Participation in "functional" strength training exercises will develop functional strength and most likely improve performance, whether it is an increased ability to spike a volleyball or pick up a child.

Psychological well-being. Finally, studies (3) suggest that women who engage in strength training benefit from improved self-esteem. Female athletes appear to be able to balance strength and femininity; according to one survey, 94% of the participants reported that athletic participation did not lead them to feel less feminine. Strength training also appears to give women a sense of personal power, especially for women who have been raped or abused. Such psychological benefits arise from the physiologic changes that occur as a result of strength training and from the process of encountering



and mastering physical challenges. Thus, both the process and the outcome of strength training benefit women (3).

Strength Training Guidelines

Since well-designed strength training programs include exercises with free weights and dumbbells and exercises that use body weight resistance, both women and men should include these in their training, and women should train at the same intensities as men.

The use of strength training machines and abdominal exercises need not be discontinued, but emphasis should be placed on the use of free-weight exercises including foot-based lower-body exercises such as the lunge, diagonal lunge, walking lunge, step up, lateral step up, and squat. Women should also include upper-body exercises that employ multiple muscle groups such as the bench press, incline press, latissimus dorsi pull-downs, pull-ups, and back extensions. Finally, women who have developed a strength base should consider total-body exercises such as the push press, hang clean, power clean, clean and jerk, and snatch.

A training program should also stress multiplanar, multijoint, functional exercises because they develop intermuscular coordination, proprioception, and balance and result in strength that transfers to sports and daily activities. For example, the step-up exercise is superior to using the leg-extension machine because it offers functional strength for walking up a flight of stairs while carrying bags of groceries. For athletes who play foot-based sports such as basketball, the squat is superior to using the leg-press machine, since the squat is functionally more similar to the sport and requires greater balance and weight and body control in all three planes of motion.

Fostering Strength

Though sex role stereotypes still powerfully shape our culture and behavior, physical strength is no longer the sole domain of men. More and more women are claiming strength as their own through participation in sports and especially in strength training programs. Such participation helps to counter the stereotypes and fosters an appreciation of strength as desirable for women.

References

1. Hettinger J: Physiology of Strength, Springfield, IL, Charles Thomas, 1961



2. Holloway JB: Individual differences and their implications for resistance training, in Baechle TR (ed): Essentials of Strength Training and Conditioning, Champaign, IL, Human Kinetics, 1994, pp 151-162
3. National Strength and Conditioning Association: Position Paper: Strength Training for Female Athletes. National Strength and Conditioning Association, Colorado Springs, 1990
4. Hakkinen K, Pakarinen A, Kyrolainen H, et al: Neuromuscular adaptations and serum hormones in females during prolonged power training. Int J Sports Med 1990;11(2):91-98
5. Karlsson J, Jacobs I: Is the significance of muscle fiber types to muscle metabolism different in females than in males? in Borms J, Hebbelink M, Venerando A (eds): Women and Sport, an Historical, Biological, Physiological and Sports Medical Approach. Basel, Switzerland, S Karger, 1981
6. Ikai M, Fukunago T: Calculation of muscle strength per unit cross sectional area of human muscle by means of ultrasonic measurement. Int Z Angew Physiol 1968;26:26-32
7. Petranick K, Berg K: The effects of weight training on bone density of premenopausal, postmenopausal and elderly women: a review. J Strength Conditioning Res 1997;11(3):200-208
8. Talbot S: The female athlete triad--not just for athletes. Strength Conditioning 1996;18(2):12-16
9. Nigg BM, Herzog W (eds): Biomechanics of the Musculo-Skeletal System. Chichester, NY, J Wiley, 1994

Dispelling Misconceptions

Recent studies counter several widely held beliefs that may limit the physiologic and psychological benefits of weight training for women.

Myth 1: Strength training causes women to become larger and heavier. The truth is, strength training helps reduce body fat and increase lean weight (1). These changes may result in a slight increase in overall weight, since lean body mass weighs more than fat. However, strength training results in significant increases in

strength, no change or a decrease in lower-body girths, and a very small increase in upper-extremity girth. Only women with a genetic predisposition for hypertrophy who participate in high-volume, high-intensity training will see substantial increases in limb circumference.

Myth 2: Women should use different training methods than men. Women are often encouraged to use weight machines and slow, controlled movements out of a fear that using free weights, manual resistance, explosiveness (high velocity, low force), or exercises that use body weight as resistance will cause injury. In fact, no evidence suggests that women are more likely to be injured during strength training than men. Proper exercise instruction and technique are necessary to reduce the risk of injuries for both men and women. All strength training participants should follow a program that gradually increases the intensity and load. Furthermore, sport-specific exercise should closely mimic the biomechanics and velocity of the sport for which an athlete is training (2). The best way to achieve this is to use closed-kinetic-chain exercise that involves multiple joints and muscle groups and the ranges of motion specific to the sport. For example, the push press--rather than triceps kickbacks--offers a superior arm extension training stimulus for improving the ability to throw the shot put in track and field.

Myth 3: Women should avoid high-intensity or high-load training. Women are typically encouraged to use limited resistance, such as light dumbbells, in their strength exercises. Often such light training loads are substantially below those necessary for physiologic adaptations and certainly less than those commonly used by men. Most women are able to train at higher volumes and intensities than previously believed. In fact, women need to train at intensities high enough to cause adaptation in bone, muscle, cartilage, ligaments, and tendons. When exercise intensity provides insufficient stimulus, physiologic benefits may be minimal (3). To gain maximum benefit from strength training, women should occasionally perform their exercises at or near the repetition maximum for each exercise.

References

- Fox E, Bowers R, Foss M: The Physiological Basis for Exercise and Sport, Madison, WI, Brown and Benchmark, 1993
- Stone MH, Borden RA: Modes and methods of resistance training. Strength Conditioning 1997;19(4):18-24
- National Strength and Conditioning Association: Position Paper: Strength Training for Female Athletes. National Strength and Conditioning Association, Colorado Springs, 1990

Mr Ebben is a strength coach at the University of Wisconsin in Madison. Dr Jensen is an assistant professor in the Department of Health, Physical Education, and Recreation at Northern Michigan University in Marquette.

TRAINING PROGRAMS

THE BASIS FOR WRITING A PROGRAM

The 6 training categories presented in this article are numbered the opposite to the 6 presented in the article BASIC TRAINING - By Ed McNeely in issue No. 6 of StrokeARCs. They are the same categorization of training effects but the reverse numbering. - Jamie

It is very difficult to produce a complete rowing programme which is ideally suited to the individual's needs and fitness levels.

Even with athletes who I train daily, it is often necessary to adjust the programme on the day because an athlete has not recovered in the way which we had anticipated.

Hence, it would appear that the interests of the athletes and coaches in remote areas (or uncoached veteran competitors) would be better served by receiving some general guidelines for building a program.

The first thing that must be done is determination of the date of the most important rowing race of the year. Count back 12 weeks and call this the "competition phase" of training. Now, count back an additional eight weeks and label this the "pre-competition phase". The remainder of the year will be the "preparation phase", except for a "transition phase" for a few weeks following competition. "Transition" refers here to non-rowing – specific activity.

With the broad framework established, it is time to plug the training into the preparation phase.

The following information is based on: Category I (steady state rowing at 65 percent intensity, 20-26 rating; Category II (long interval: 70-85 percent at 26-30); Category III (medium interval: 80-90 percent at 28-34); Category IV (short aerobic interval: 85-100 percent at race rate); Category V (anaerobic interval: 100-105 percent at race rate +2 or +4).

During the preparation phase, approximately 50% of the training sessions should be selected from category I and 50% from category II.

Therefore, if training 6 times per week, 3 rows would be "steady state" and 3 would be "long intervals". It is suggested that 2 consecutive training sessions are not from category II. Rather, sessions of each of steady state and long interval should be alternated.

Depending on athlete level of interest, commitment or employment and family constraints, training any number of sessions could be easily accommodated with this program.



If training more than 6 times per week, it is suggested that the 7th or 8th sessions be added on days when training is already scheduled. In other words, the body and mind would be well served by at least one day per week completely away from the water. An alternative form of activity (e.g. jogging, cycling, squash, tennis etc.) is ideal on days without water training.

During steady state rows, vary stroke ratings or put in extra "efforts" (maybe 10 strokes each 50) or do squared blade rowing or other drills to break up the monotony and keep the training interesting. Just remember that the average intensity should be approximately 65% during such a training session.

During the preparation phase, it is often appropriate to work in 3 or 4 weekly cycles with the training load (a combination of volume and intensity) progressively increasing for two or three weeks, followed by a week of "unloading" or a recovery week.

As fitness improves, each new cycle will involve slightly greater training loads than the cycle just completed. The "unloaded" or "recovery" week is essential to allow the body to adapt to the training stresses of preceding weeks. At the completion of the recovery week, "test" the progress.

This can be done by timing the boat over a measured distance or by seeing how much distance can be covered in a fixed time. During this preparatory phase of training select relatively long distances (5+Km) or times (30 minutes+) for the "test".

Plan training one cycle at a time to enable adjustment to training; if there is not sufficient recovery, training is not demanding enough. One way of monitoring recovery is to record the pulse rate each morning before getting out of bed. In very general terms, if this rate jumps up by more than 5 beats per minute and stays up for two or more consecutive days, recovery is inadequate and training should be reduced until the pulse rate returns to its normal range.

Similarly a loss of appetite and/or difficulty sleeping are other indications of over-training or an inability to adequately recover. Again, if these symptoms occur, reduce training until the symptoms cease. If any of these symptoms persist, consult a doctor.

Following the preparatory phase, will be the pre-competitive phase. During this phase, start to incorporate the "medium interval" work. One could typically incorporate two such sessions into a 6 or 8 session training week.

If training 8 times per week, 3 such sessions could be incorporated during the "heavy" week of the cycle. The remaining training sessions each week could be evenly divided between training sessions selected from each of categories I and II. It would also be prudent to follow each category III training session with either a category I session, or your day off, during this phase.

As with the preparatory phase, a "test" should conclude or immediately follow the recovery week. Either time a fixed distance or measure the distance covered in a fixed time period. The "test" distance or time could be shorter than during the preparatory phase.

During the "competition phase", two or three workouts per week should now be from categories IV and V. If the training programme involves 6 sessions per week or less, select one session of short aerobic and anaerobic from each of categories IV and V, while being certain to retain at least two sessions per week from category I.

If training 5 times per week, choose the fifth training session from any of categories I, II or III. If training 6 times per week, the programme could include: two sessions of category I and one from each of the other four categories or it could include three from category I plus one from either category II or category III plus one from each of categories IV and V.

If the chosen training programme involves eight sessions per week, three should come from category I, one each from categories II and III, plus either two from category IV and one from category V or two from category V and one from category IV. As rowing is predominantly aerobic, more sessions per cycle should be drawn from category IV.

The best way to "test" progress during the competition phase is by racing in regattas. Ideally, regattas should be selected to fit in at the end of the "unloading" or "recovery" weeks. Otherwise, consider the regatta to simply be a category IV training session.

During the final 7 to 10 days prior to the major event of the year, limit training sessions to light work, with most coming from category I (but for less than 60 minutes) and only do short sprint pieces, when working at high intensities. The total high intensity work during any workout in the final "taper" should probably not exceed 150% of the number of strokes in a race and recovery periods should be quite long between high intensity bursts.

Strength training is another useful adjunct to the actual rowing work.

Some general points on prudent training:

1. Warm up and stretch for 15-30 minutes before each training session.
2. Warm up on the water for 3 to 4km for every row.
3. Either, do not train if you are ill or have any kind of viral infection, or simply row at a very low intensity (below that in category I), as some recent research would suggest. It would be best to seek medical advice with the onset of any illness.
4. Do some stretching for 10-15 minutes after each row.
5. All of this material assumes a clean bill of health, following medical consultation.

FLEXIBILITY

MOBILITY TRAINING

These pre-workout exercises can give a valuable boost to competitive performance. What you do just before your workout begins can have a big impact on what you are able to do during your workout. Many athletes prepare for a training session by carrying out some routine stretching exercises, but it's important to remember that stretching helps to improve your static (non moving) flexibility and may not do such a good job at preparing your body to move quickly and efficiently. That's why I recommend that you focus on 'dynamic mobility exercises' before every workout.

Dynamic mobility exercises during your pre-workout warm-up period prepare your body completely for the vigorous movements that make up the main part of your workout. Most sports involve forceful, strenuous activity, and mobility exercises and drills stimulate your nervous system, muscles, tendons, and joints in a very dynamic manner. Static stretching exercises, in which you're not moving around at all but are simply elongating a particular muscle or group of muscles, do have a place in your training programme, but their value and proper usage are often misunderstood.

It's probably best to place your static stretches at the end of your workout as part of the cool down at the beginning of a training session. Static exercises help bring your body back toward a state of rest and recovery and allow you to focus on relaxing and lengthening the muscles that you have put under stress during your workout. Placing static stretches at the beginning of a training session, on the other hand, tends to interrupt the natural flow of an optimal warm-up and fails to prepare you fully for the dynamic movements that will follow.

What follows is a detailed description of a group of dynamic mobility exercises designed to warm you up, stretch you out, and keep you moving as you make the transition from resting to high-energy activity. In addition, I have provided two sample mobility training units that you can utilize during your pre-workout warm-ups.

Joint rotations

From a standing position with your arms hanging loosely at your sides, flex, extend, and rotate each of the following joints (perform six to 10 rotations at each group of joints before moving on to the next group): (1) Fingers, (2) Wrists, (3) Elbows, (4) Shoulders, (5) Neck, (6) Trunk

and Shoulder Blades, (7) Hips, (8) Knees, (9) Ankles, and (10) Feet and Toes.

Progress through this sequence of rotations at a low intensity and slow speed, and make yourself aware of the motions that occur at each joint. Tune your mind into your body, and prepare yourself mentally for engaging in physical activity (picture yourself moving smoothly and powerfully). Complete the series of joint rotations from fingers to toes in no more than three to four minutes.

Continuous warm-up activity



After you've finished your joint rotations, move continuously at a slow, easy pace for five to seven minutes to warm up. Jogging and cycling are the most traditional exercises used for warming up, but you need not limit yourself to these two activities. As an alternative, you may alternate slow jogging with jogging backward, skipping, galloping, side-shuffling, cross-over

stepping (also known as carioca or grapevine movement), skipping backward, walking while swinging your arms in circles forward or backward, and/or jogging with easy 'bum kicks' (alternately bringing heels to the buttocks while jogging). Each of these variations may be done in segments of 30-50 metres, interspersed with brief periods of normal jogging in between segments.

If you like to use seated stationary cycling during your warm-up, it may be alternated with cycling from a standing position on the pedals, backward pedaling, and standing-backward-pedaling. Other types of warm-up activities include stair stepping, treadmill walking or jogging, ski-machine usage, climbing on a climbing machine, slide-boarding, and rowing. All warm-up activities should begin at a slow pace and gradually increase in intensity. You should feel a sense of warmth and relaxation in your muscles - and perspire lightly by the end of your five- to seven-minute warm-up period.

Dynamic mobility exercises

After you've finished your joint rotations and brief warm-up, perform the movements described below as smoothly as possible, and progress gradually from small to large ranges of motion over the course of the repetitions. Begin the exercises by keeping all swings and bends at a slow and safe speed of movement. As your mobility increases, gradually increase the speed to make them more dynamic.

Please remember to stay within your own normal range of motion, but work to increase your amplitude (range of motion) and speed of movement in small increments

from week to week. Don't find your limit (in speed or amplitude) by going past it and injuring yourself. Mobility training is for injury prevention and performance improvement - not injury promotion.

Please perform the following exercises, in order, from a standing position, remembering to carry out all movements in a smooth, continuous manner, without stopping or jerking:

I. UPPER BODY MOBILITY

A. ARM SWINGS (Two movement)

1. Overhead/Down and Back - Swing both arms continuously to an overhead position and then forward, down, and backwards. Repeat for six to 10 repetitions.

2. Side/Front Crossover - Swing both arms out to your sides and then cross them in front of your chest. Repeat for six to 10 repetitions.

B. NECK MOBILITY (Three movements)

1. Flexion/Extension - Tuck your chin into your chest, and then lift your chin upward as far as possible. Repeat for six to 10 reps.

2. Lateral Flexion - Lower your left ear toward your left shoulder and then your right ear to your right shoulder. Six to 10 reps.

3. Rotation - Turn your chin laterally toward your left shoulder and then rotate it toward your right shoulder for six to 10 reps.

C. TRUNK AND SHOULDER-GIRDLE MOVEMENTS (Three movements)

1. Flexion/Extension - Slump (protract) shoulders, tuck your chin toward your chest, and drop your chest forward slightly. Then, pull your shoulders back (retraction), raise your chin up, and lift your chest while arching your back slightly. Six to 10 reps.

2. Lateral Flexion - With your arms at your sides, bend sideways at the waist to your left, and then bend sideways to the right. Repeat for six to 10 repetitions on each side.

3. Rotation - With hands in front of your chest and elbows out to the sides, twist at your waist to the left, and then back to the right. Six to 10 reps.

II. LOWER BODY MOBILITY

A. Hip Circles and Twists (Two Movement)

1. Circles - With your hands on your hips and feet spread apart wider than your shoulder, make circles with your hips in a clockwise direction for 10 to 12 repetitions. Then repeat the circles in a counterclockwise direction for 10 to 12 repetitions.

2. Twists - Extend your arms out to your sides, and twist your torso and hips to the left, shifting your

weight on to the left foot. Then twist your torso to the right while shifting your weight to the right foot. 10 to 12 reps on each side.

B. Leg Swings (Two Movements)

1. Flexion/Extension - With your weight on your left leg and your right hand on a support for balance, swing your right leg forward and backward for 10

to 12 repetitions. Repeat with the left leg for 10 to 1 - 2 reps.

2. Cross-Body Flexion/Abduction - Leaning slightly forward with your hands on a wall and your weight on your left leg, swing your right leg to the left in front of your body, pointing your toes upward as your foot reaches its farthest point of motion. Then swing the right leg back to the right as far as comfortably possible, again pointing your toes up as your foot reaches its final point of movement. Repeat this overall motion 10 to 12 times before performing 10 to 12 reps with the left leg.

C. Ankle Bounce (Two Movements)

1. Double-Leg Bounce - Leaning forward with your hands on the wall and your weight on your toes, raise and lower both heels rapidly (bounce). Each time, lift your heels one to two inches from the ground while maintaining ground contact with the balls of your feet. 12-16 reps.

2. Single-Leg Bounce - Leaning forward with your hands on a wall and all your weight on your left foot, raise the right knee forward while pushing the left heel towards the ground. Then lower the right foot to the floor while raising the left heel one to two inches. Repeat in a rapid, bouncy fashion for 12 to 16 repetitions before carrying out 12-16 reps with the opposite side.



Sample routines

The following routines are excellent for warming you up and enhancing your mobility before your main workout begins. Unit A is particularly appropriate before an intense training session but may be used by any athlete who desires improved mobility. Training Unit B is a shorter version of Unit A and may be used to maintain previously developed levels of mobility. Best results will be realized by performing one of the units on a daily basis.

MOBILITY TRAINING UNIT A (Developmental unit; 20-30 minutes in duration)

1. Joint Rotations (3-4 minutes)
2. Warm-Up Activity (5-7 minutes of walking, jogging, skipping, etc.)
3. Upper Body Mobility (2 minutes) a. Arm Swings (2 movements, 10 reps each way) b. Neck Movements (3 movements, 10 reps each way) c. Trunk and Shoulder-Girdle Movements (3 movements, 10 reps for each)
4. Fast Jogging (2 minutes: 2-3 X 50-60 metres, with 20- metre walk recoveries)
5. Lower Body Mobility (3-4 minutes) a. Hip Cycles and Twists (2 movements, 12 reps each way) b. Leg Swings (2 movements, 12 reps each way) c. Ankle Bounces (2 movements, 16 reps each way)
6. Fast Striding (2 minutes): 2 X 50-60 metres, with 50- metre walk recovery 7. Acceleration Runs (2-3 minutes): 2 X 40 50 metres, increasing speed throughout, with a 50-metre walk recovery

MOBILITY TRAINING UNIT B (Maintenance unit, just 10-15 minutes in duration)

1. Joint Rotations (2 minutes)
2. Warm -Up Activity (5 minutes of walking, jogging, skipping, etc.)
3. Upper Body Mobility (2 minutes) a. Arm Swings (2 movements, 6 reps each way) b. Neck Movements (3 movements, 6 reps of each) c. Trunk and Shoulder Movements (3 movements, 6 reps for each)
4. Lower Body Mobility (3 minutes) a. Hip Circles and Twists (2 movements, 10 reps) b. Leg Swings (2 movements, 10 reps for each leg) c. Ankle Bounces (2 movements, 12 reps)

Key points about mobility training

Train - don't strain. At first, perform all movements slowly and within a comfortable range of motion. Over a period of several weeks, gradually increase the speed and range of the exercises to make them more dynamic. This will allow your muscular and nervous systems to slowly but progressively adapt to the movements. The final result will be significant, functional increases in your mobility. Don't forget to warm up properly before performing the dynamic movements. A short bout of continuous, moving activity will raise your body temperature, increase blood flow to your muscles, activate your nervous system, and prepare you fully for your mobility exercises - and for a strenuous overall workout.

Save your static stretching activities for after your workout, during your cool-down period. Relaxed, passive stretching prepares your muscles for the quiescent period which follows your workout. If you're wondering why you should attempt to expand the mobility of your neck and shoulders when the 'prime movers' during your workout are probably your legs, wonder no more. Remember that your whole body functions as a unit - a 'chain' of interrelated parts. For example, if your shoulders are stiff, you won't have a quick, fluid arm swing when you are running. If you don't have proper arm swing, your legs will slow down and your workout quality will drop.

Don't forget to carry out your mobility training before every workout. Mobility and flexibility training has a cumulative effect over an extended period of time. After about four weeks or so, you should notice appreciable gains in your mobility, flexibility and ability to move smoothly during your training sessions. Best of all, you'll also notice an appreciable improvement in your workouts - and your competitive efforts!



ASSOCIATION OF ROWING COACHES, SOUTH AFRICA

SPORTS MEDICINE KEEPING THE BUGS AT BAY

The relationship between exercise and the immune system is of great importance for coaches and their athletes during the winter season, when illness and infection can compromise an athlete in training and competition.

The 'open window' theory

It has been suggested that bouts of heavy, prolonged exercise can lead to a temporary but clinically significant reduction in an athlete's immune function. During this so-called 'open window' of altered immunity, which may last between three and 72 hours depending on the immune measure, viruses and bacteria may be able to gain a foothold, increasing the risk of infection. Parts of the immune system that may change after prolonged, heavy exertion include:

- decrease in natural killer-cell activity — the ability to kill infected cells or cancer cells
- decrease in nasal and salivary Immunoglobulin A concentration — an antibody that combines with protein in saliva and tears to defend the body from invading germs
- high blood levels of the hormone cortisol cause high blood levels of neutrophils and low levels of lymphocytes — two different types of white blood cells
- decrease in nasal mucociliary clearance — sweeping movement of small hair-like structures in the nose

- increase in plasma concentrations of pro and anti-inflammatory immune cells known as cytokines.

Taken together, these changes suggest that the immune system is temporarily suppressed and stressed following prolonged endurance exercise. It has been suggested that the immune system reacts to the inflammation caused by heavy exertion, diverting resources that normally protect against infection, particularly upper respiratory tract infection.

Thus it makes sense, but still remains unproven, that upper respiratory tract infection risk is probably increased when an athlete goes through repeated cycles of heavy exertion, has been exposed to viruses and bacteria that cause infections, and has experienced other stressors to the immune system, including lack of sleep, severe mental stress, poor nutrition or weight loss.

Role of nutritional supplements in reducing exercise-induced changes in immunity

Although endurance athletes may be at increased risk of upper respiratory tract infections during heavy training cycles, they still need to exercise intensively to compete successfully. Therefore, one solution could be taking nutrient supplements that have the potential to boost immune function. The influence of carbohydrate, vitamin C and glutamine on the immune response to intense and prolonged exercise has been investigated with varying results.

Carbohydrate

The most impressive results have been reported in carbohydrate supplementation studies. Research has established that blood glucose concentrations are linked to the body's hormonal system, including the stress hormones. This, in turn, is linked to the body's immune system. By keeping the blood glucose levels up, stress hormones are reduced and immune system function is better maintained than when just water is ingested. Research shows that athletes ingesting carbohydrate beverages before, during and after prolonged and intensive exercise should experience lowered physiologic stress.

This model suggests that carbohydrate supplementation during prolonged and intensive exercise maintains or elevates blood glucose concentrations, reduces the normal rise in stress hormones, and thereby counters negative immune changes.

Vitamin C

Several studies of South African ultra-marathon runners have shown a link between vitamin C supplementation (about 600 mg/day for three weeks) and fewer reports of upper respiratory tract infection. While findings suggest that vitamin C supplementation may be beneficial during and after strenuous physical activity, the data does not prove that supplementation with vitamin C is also beneficial during moderate training.

Glutamine

Glutamine, a non-essential amino acid (building block of protein), has attracted much attention from investigators. Lower levels of glutamine result in reduced immune function, and reduced blood glutamine levels have been observed after prolonged exercise. It has been suggested that glutamine supplementation may overcome the problems of overtraining, or the impaired immune function suffered by athletes involved in heavy training. However, most studies have not favoured such a relationship.

Summary

There is growing evidence that prolonged intensive exercise is associated with reduced immune function and an increased susceptibility to opportunistic infections, particularly upper respiratory tract infections. Exercise-induced increases in stress hormones may be responsible. Attempts have been made to prevent these negative changes through nutritional means, with carbohydrate supplementation via a sports drink offering the most promising results so far.

Practical tips for coaches

Athletes are urged to eat a well balanced diet, minimise other life stresses, avoid overtraining, get adequate sleep and space vigorous workouts as far apart as possible. New research suggests that drinking carbohydrate beverages before, during, and after prolonged and intensive sessions can lessen the stress on the immune system. The immune system appears to be suppressed during periods of low energy intake and weight reduction, so athletes should lose weight slowly during non-competitive phases. Cold viruses are spread by personal contact and breathing the air near sick people. Athletes should avoid being around sick people before and after important events. If the athlete is competing during winter, a flu shot may be recommended, particularly for those at high risk of infection.



Association of Rowing Coaches

Membership Application Form

First Name:

Surname:

Gender:

Nationality:

ID Number (RSA):

DoB:

Postal Address:

Cell Phone:

Email:

Club/Institution:

Volunteer/Half paid/Full Paid:

Coaching Qualification Level:

Representation: International/National/Provincial: _____

This form must be completed and returned by fax to Jamie Croly (National Secretary) at 011 781 2987 or by Email at jcroly@stithian.com. You will be notified by email of the receipt and acceptance of the membership application.

Membership fee of R100.00 per year will be invoiced after membership has been accepted and processed.