MIND GAMES

THE VIEW FROM THE TOP

60 SECOND SUMMARY

HOT OFF THE PRESS

OLYMPIC COACH

SPRING 2008 • VOLUME 20 • NUMBER 2

Message from the
Managing Director

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PEAK PERFORMANCE REQUIRES OPTIMAL SLEEP AND ALERTNESS

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ON THE COVER
The athlete on the cover is Andrew Campbell, he has already qualified for the 2008 U.S. Olympic Team - Sailing in the Laser class. The photo was taken by Amory Ross.

Message from the
PERFORMANCE SERVICES MANAGING DIRECTOR
by
DOUG INGRAM

Every coach at some time in their career will wake up in the middle of the night thinking about what has happened in a competion or practice. The struggle will be how to solve a problem AND how to get back to sleep. We may spend hours at night worrying about things we can't change—particularly at 3 am. The double edge sword of worry and lack of sleep compounds the next day as we aren't as sharp as we want to be or need to be. We may be more irritable than normal, less patient with our athletes and staff and make decisions that are not well thought out.

Travel sleep may be a factor for some. The "one-eyed" sleep on a long flight accompanied by sleeping in a different location, maybe in proximity to people that you are not used to, with a lot of stress and stimulation before and during the competition, can make for less sleep than usual.

You may not be able to totally avoid having some sleep issues, but this issue has some advice regarding sleep from one of the leading experts in the World -Dr. Mark Rosekind. I know you will enjoy his article. We have include in this edition a self-evaluation for Coaches. It is titled for Head Coaches, but using this as a reflection tool will be valuable for any coach.

We have the last in the installment regarding heart rate training, with Dr. Krista Austin explaining how to use blood lactates. Kim Sanborn provides insight in how to use Plyometrics in your training and where this type of training fits into your Annual plan.

Routines and the value of using them with your athletes' is discussed in Sean McCann's Mind Games article. The View from the Top this issue features Mike King . Mike represents the newest Olympic Sport—BMX Cycling.

All systems are go at the USOC, as we have less than a 150 days to the beginning of the 2008 Olympic Games in Beijing. Preparations are rapidly turning into execution for many teams. Olympic Trials are occurring for some sports as you read this E-Zine. This is an exciting time, for the latest updates visit www.usolympicteam.com.

On to Beijing/Amazing Awaits !!

Peak Performance Requires Optimal Sleep and Alertness

By Mark R. Rosekind, Ph.D.
President and Chief Scientist--Alertness Solutions

Coach, I had so much to do to prepare for today's competition that I had to stay up all night to be ready.

Coach, to prepare for the time zone change at the international competition I have been sleeping during the day and staying awake all night.

Coach, I couldn't relax and just kept worrying about today's big event but after a few beers I feel much better.

Hopefully, you will never experience these situations. In fact, they probably represent the exact opposite of what you and your athletes are working so hard to attain. Unfortunately, many common practices that are thought to be helpful or benign can actually create performance decrements equivalent to these scenarios.

Consider the diverse and complex array of factors that coaches and athletes address to achieve peak athletic performance and success. Conditioning, sport-specific skills training, nutrition, recovery, strength training, and mental/psychological considerations are just some examples of important factors that can significantly affect athletic performance. So, in all of your preparation, planning and training for your athletes and yourself, how and where do you address sleep, circadian rhythms (the body clock), and alertness?

Humans have some basic physiological requirements for survival: food, water, and air. Though often ignored or underestimated, sleep is also a basic human biological need, equal to food, water and air in its importance to life and for achieving optimal performance and alertness. Sleep is not elective; it is not an option, to be obtained when convenient. Overwhelming scientific data clearly show that sleep loss and circadian disruption can impair performance, degrade health, and disturb mood. More importantly, obtaining optimal sleep, addressing circadian factors, and effective use of alertness strategies can enhance performance, health, and mood and provide a competitive advantage.

An introduction to sleep and circadian basics, some example sleep and alertness strategies, and an approach to planning can provide an initial, informed foundation for addressing this basic physiological requirement.

I'M HUMAN, I SLEEP, I'M AN EXPERT.

About a decade ago, the National Sleep Foundation conducted a simple 10-item "Sleep IQ" test and found that 82% of respondents failed the test with an average score of 46% (1). Flipping a coin could provide a 50% score, so the average respondent did worse than chance. Generally, though our society has become more informed and active regarding exercise and nutrition, the need for sleep and its importance to our performance, alertness, safety, health, and mood continues to be ignored or diminished. Awareness about sleep may be increasing but knowledge and effective actions are alarmingly rare.

Here are four basics about sleep and circadian rhythms that everyone should know (2).

1. Sleep need. Physiologically, adult humans require about 8 hours of sleep; with a range of around 7 to 9 hours. The amount of sleep an individual requires is genetically determined and "training" cannot reduce this sleep requirement. Kids and young adults from junior high/middle school years through their early 20's physiologically require about 9 to 10 hours of sleep.

2. Sleep debt. Lose sleep and it builds into a cumulative sleep debt. Though most adults require about 8 hours of sleep, on average, they obtain about 1.5 hours less. This sleep loss accumulates into a sleep debt. For example, over a five-day work week, a daily 1.5 hours of sleep loss would build into a 7.5 hour sleep debt by the weekend. This equates to losing one full night of sleep (i.e., pulling an all-nighter) going into the weekend. *(Coach, I had so much to do to prepare for today's competition that I had to stay up all night to be ready.)*

3. Circadian rhythms. Humans are hard-wired with a biological clock in the suprachiasmatic nucleus of the hypothalamus. This circadian (circa=around, dies=a day) clock controls the 24-hour rhythms of our physiological and behavioral activities. Its programming controls the 24-hour fluctuations in sleep/wakefulness, hormones, alertness, performance and is exhibited at the cellular level. Circadian disruption commonly occurs as a result of irregular schedules and crossing time zones and has similar negative effects on performance, alertness, health, and mood as sleep loss.

4. Experience ≠ reality. How alert an individual "feels" does not reflect reality. Generally, even though an individual might report feeling wide-awake and at peak alertness, the person's actual performance could show significant impairment and the person might fall asleep in less than five minutes (a sign of pathological sleepiness). A person's ratings of alertness and performance do not accurately reflect actual levels. This "disconnect" is one reason why individuals feel that sleep loss and circadian disruption have minimal or no effect.

OUR WHOLE SOCIETY IS SLEEP DEPRIVED, WHO CARES?

Most people believe that they can lose sleep or disrupt their circadian clock with minimal or no consequences; ok, maybe they feel a little tired. Extensive scientific research clearly demonstrates that sleep loss and circadian disruption can degrade or impair just about every aspect of human capability and performance. For example, studies have shown that sleep loss can reduce judgment and decision-making, reaction time, attention, memory, communication skills, mood, and learning. Depending on the variable and amount of sleep loss, performance in these areas can be reduced by 10 to 50%. Performance during the lowest circadian point in the night could be reduced by up to 30%.

How much sleep loss does it take to see these levels of performance reduction? Studies have shown that getting 2 hours less sleep than needed can significantly impair performance. For example, in one study, allowing 8-hour sleepers to get only 6 hours of sleep (2 hours less than they needed) impaired performance to

the equivalent of drinking 2-3 12 oz beers, a level that equates to about .05% breath ethanol concentration. Getting 4 hours of sleep (4 hours less than they needed) impaired performance to the equivalent of drinking 5-6 12 oz beers, a level that equates to about .10% breath ethanol concentration (3). *(Coach, I couldn't relax and just kept worrying about today's big event but after a few beers I feel much better.)*

Sleep loss and circadian disruption also can reduce safety and health. There could be an estimated 1 million car crashes annually due to fatigue and drowsy driving. National Sleep Foundation polls indicate that 60% of Americans have driven drowsy in the last year and 37% report nodding off at the wheel (1). Irregular schedules can be associated with up to a 50% increase in on-the-job injuries and accidents. Disturbed sleep and circadian disruption also can be associated with increased risks for heart and stomach problems, high blood pressure, cancer, pregnancy problems, obesity, anxiety, and depression.

Though not extensive, there are some scientific studies examining these issues and their effects on athletic performance. Most of the efforts have focused on circadian rhythms and circadian disruption associated with jet lag and travel across time zones. For example, one study found circadian variations in world record-breaking performances with most records broken by athletes in the early evening (4). Another study with British Olympic squad members showed performance impairments in several measures over a 5-day period after crossing multiple time zones (5). An examination of NFL Monday Night Football outcomes showed that West coast teams had a 20% higher win percentage compared to East coast teams playing at a worst circadian time (6). Even without overwhelming, solid data due to a paucity of studies, there is no justification to consider that the human physiological requirements related to sleep and circadian rhythms do not extend to athletes and their performance.

OPTIMAL SLEEP AND ALERTNESS STRATEGIES

There are a variety of scientifically validated strategies that are effective in promoting optimal sleep, alertness and performance. Here are two approaches for obtaining optimal sleep and one powerful strategy to increase performance and alertness.

1. Good sleep habits. The following "good sleep habits" should become part of everyone's routine to obtain optimal sleep.

a. Protect sleep from intrusions
b. Keep a regular bedtime and wake time (whenever possible)
c. Use a pre-bedtime routine to prepare for sleep
d. Use the bed and bedroom for relaxation and sleep
e. Avoid work and worry in the bed and bedroom
f. Learn and practice a relaxation technique for sleep
g. Avoid caffeine, alcohol, and exercise within at least 2 hours of sleep
h. Get the sleep you need, make sleep a priority

2. Environmental factors. Evaluate and address the following "bedroom" factors.

a. Noise (background vs intrusive events)
b. Temperature (cooler is better than warmer)
c. Light (use black out curtains; night light)
d. Use a reliable, regular, effective alarm clock
e. Determine personal comfort for mattress and pillows
f. Consider privacy/security

3. Strategic naps significantly increase performance and alertness. While at NASA, we conducted a study that provided commercial airline pilots a planned nap opportunity in-flight to determine the effects of a 40-min nap on performance and alertness (7). It remains a unique study, conducted in the real-world during actual flight operations with pilots flying 9 hour legs between the US and Japan, and included multiple flight legs both day and night. We physiologically monitored the pilots' brainwaves and eye movements and they completed sensitive, validated performance tests (see photo). Our findings: on average, pilots fell asleep in about 6 minutes and slept for about 26 minutes. These 26-minute naps enhanced objective performance by 34% and increased physiological alertness by 54%, with effects lasting around 3 to 4 hours.

A planned nap is a very powerful alertness strategy that can significantly increase performance and alertness. Some general guidance for effective use:

a. For a short nap, up to 40 minutes in length (helps to avoid deep sleep)
b. For a longer nap, around 2 hours
c. Avoid a long nap too close to planned bedtime
d. Allow 10-15 minutes "wake-up" after nap
e. Consider sleep aids: eye mask, ear plugs

PLANNING FOR OPTIMAL SLEEP AND ALERTNESS

Before using any strategy in a travel or competitive situation, test it at home to ensure that it is safe, effective, and works for you and your athletes. Like any other aspect of coaching, training, strategy, and competition: have a plan. Create a specific plan for managing sleep, circadian rhythms and alertness at home and traveling to competitions. Identify specific strategies to obtain optimal sleep, how to manage circadian disruption, and when to use alertness strategies.

Without a plan or addressing the issues identified, performance will be reduced by sleep loss and circadian disruption. Though only an introduction to a complex area, the knowledge and strategies presented can make a significant difference in successfully mitigating negative outcomes and helping to enhance performance and creating a competitive advantage. There is much more to learn and apply but you and your athletes will already have an edge by acknowledging these physiological and performance issues and applying strategies to achieve peak athletic performance through optimal sleep and alertness.

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Dr. Mark Rosekind is an internationally recognized expert on sleep, circadian rhythms, performance and alertness. He previously directed the NASA Fatigue Countermeasures Program and prior to his NASA position, directed the Center for Human Sleep Research at the Stanford University Sleep Center.

Head Coach Self Evaluation

By Dave Shrock, Modesto Jr. College
Kyle Coffman, USOC Performance Services Intern
Catherine Sellers, USOC Coaching

This is a self-evaluation tool. It is an aid for self-reflection on how you work with your athletes, staff and administration. We encourage you as the coach to keep a record of this evaluation and periodically review it as a means for your own personal growth.

Please rate yourself using the scale below. If you feel you do not have enough personal experience in one area, or a question does not apply to you in this circumstance, please answer NA for not applicable.

5 - at all times 4 - almost always 3 - sometimes 2 - not oftem 1 - not at all NA - not applicable or not able to answer

	STRATEGIC PLANNING RATING	**rating**
1	I strive to remain current in advanced methods and techniques of my sport by reading, attending seminars-clinics, etc.	
2	I am confident in my knowledge of the skills and tactics necessary for my sport	
3	I instruct and coach sport specific skills effectively	
4	I know where to go for knowledge, resources, expertise and information that I may not have.	
5	I have a strong commitment to producing well-organized, focused and appropriate workouts.	
6	I have developed an annual and seasonal plan and have shared that with my assistants.	
7	I develop and follow a daily training plan with goals and objectives for each workout.	
8	Clear goals and expectations for performance have been set.	
9	My assistant(s) or discipline coaches are involved in the development of team training plans.	
10	I am an active participant with the NGB or my administration in the creation of strategic planning or short and long term objectives/performance goals.	
11	I am a good judge of talent.	
12	My athletes/team shows a pattern of improvement throughout the annual training cycle.	
13	My athletes/team have achieved the performance goals for the year.	
14	My athletes/team have improved their performance record, placing at major competitions, or achieving individual markers from the previous year.	
15	My methodology and teaching has had a positive impact on these results.	
16	I understand and adhere to the WADA-USADA anti-doping policies.	
Total for this section:		

Additional notes and considerations specific to your ability to strategically plan:

5 - at all times **4 - almost always** **3 - sometimes** **2 - not oftem** **1 - not at all** **NA - not applicable or not able to answer**

ATHLETE AND TEAM MANAGEMENT RATING		rating
1	I engage each athlete as an individual physically, mentally, and emotionally.	
2	I communicate the goals and objectives for workouts to the athletes.	
3	I actively listen to my athletes.	
4	I provide feedback to my athletes in a timely fashion.	
5	I provide feedback so that my athletes can make corrections to incorrect habits by providing them with instructional cues.	
6	I see mistakes as opportunities for improvement, rather than as a cause for reprimand or punishment.	
7	I provide clear instructions and invite questions and respond with respect.	
8	I effectively deal with conflict and disagreement.	
9	I deliver praise in front of the team and give constructive criticism privately.	
10	I regularly seek input from athletes.	
11	I accept constructive feedback from athletes.	
12	I strive to develop leadership skills in my athletes.	
13	I am aware of athletes or the team's morale and environment.	
14	I value and promote my athletes welfare outside of sport.	
15	There is a good level of retention and advancement with my athletes and teams.	
16	I inform the NGB or administration when I have concerns about an athlete's behavior or development.	
17	I effectively and comfortably delegate routine tasks and decisions.	
18	I promote core values that include accountability, team work, integrity and respect.	
Total for this section:		

Additional notes and considerations specific to your ability to strategically plan:

5 - at all times **4 - almost always** **3 - sometimes** **2 - not oftem** **1 - not at all** **NA - not applicable or not able to answer**

STAFF MANAGEMENT		rating
1	I communicate the goals and objectives for workouts to appropriate coaches.	
2	I can handle unexpected requests from staff and others.	
3	I gather sufficient information from available sources before making a decision.	
4	I communicate and treat assistant coaches and other team personnel with respect.	
5	I manage team personnel (trainers, assistant coaches, etc.).	
6	I present my athletes and coaching staff with the opportunity to learn, grow and develop.	
7	I remain composed, focused and effective under pressure and expect that of my staff.	
8	I feel that I balance/prioritize various responsibilities in my professional life and want that for my staff as well.	
9	I understand and adhere to the NGB's/USOC Coaching Code of Ethics.	
10	I demonstrate good sporting behavior in dealing with other teams, coaches, and officials.	
11	I conduct myself with integrity and professionalism on and off the court/field.	
12	I concentrate my efforts on the most important priorities.	
13	I provide clear direction and define priorities for the team and coaching staff.	
14	I monitor the athletes and coaching staff's ability to deliver.	
15	I encourage teamwork and cooperation between the coaching staff.	
16	I remove obstacles and provide resources as needed to assist athletes and staff in achieving their development goals.	
Total for this section:		

Additional notes and considerations specific to your ability to strategically plan:

5 - at all times **4 - almost always** **3 - sometimes** **2 - not oftem** **1 - not at all** **NA - not applicable or not able to answer**

	ADMINISTRATIVE DUTIES	rating
1	I handle tasks, projects, paperwork and assignments on time and with quality	
2	I manage personal and program/team travel arrangements in a timely manner.	
3	I provided requested budget information in a timely manner.	
4	I feel I am organized in the logistical administration and managing of my team and program.	
5	I am consistently within stated team/program budgets	
6	I attend all appropriate practices, team functions, and NGB or school functions whenever possible.	
7	I actively promote our team/program by engaging in community events or developmental activities.	
8	I promote our team/program by speaking at schools/clinics and write articles.	
9	I maintain good relationships with key personnel in the NGB or administration.	
10	I can marshal resources (people, funding, material, support) to get things done.	
11	I understand the direct correlation between my fullfilling of administrative responsibilites and it's impact on my team and staff.	
Total for this section:		

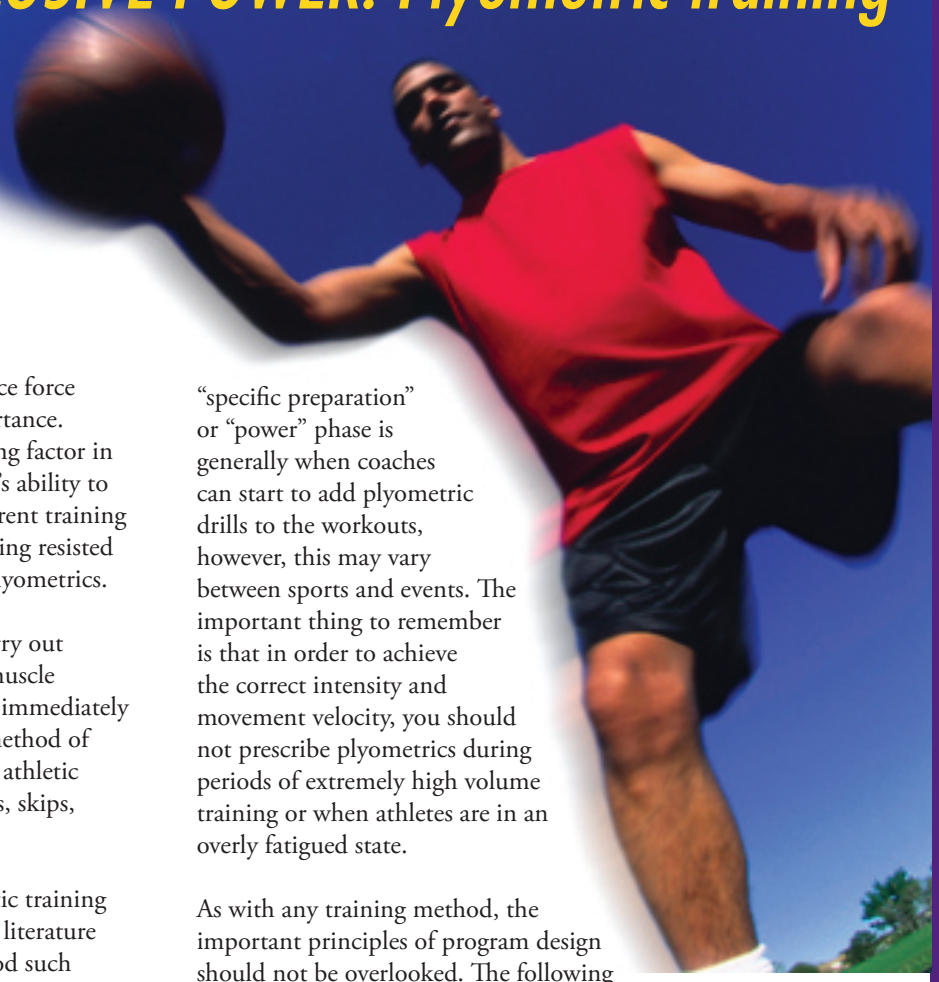
Additional notes and considerations specific to your ability to strategically plan:

Signature: Date Completed:

Name and Title:

Development of *EXPLOSIVE POWER: Plyometric training*

Kimberly Sanborn, MS, CSCS
Performance Services Strength &
Conditioning Specialist, Endurance Team



INTRODUCTION

In most sports or events an athlete's ability to produce force quickly in a dynamic movement is of utmost importance. Explosive muscle power has been shown to be a limiting factor in sports performance and is highly related to the muscle's ability to carry out the stretch-shorten cycle (SSC). Several different training methods are commonly used to improve power including resisted sprinting, over-speed training, strength training and plyometrics.

Plyometric exercises train the muscles to effectively carry out the stretch-shorten cycle (SSC) which is a pattern of muscle contraction involving a stretch of the muscle followed immediately by an explosive contraction. Plyometric training is a method of developing explosive power and ultimately, improving athletic performance. Plyometric exercises include jumps, hops, skips, bounds and throws.

Although plyometrics have long been utilized in athletic training and conditioning, the term did not begin to appear in literature until the 1960's. Often an "innovative" training method such as this will be met with some skepticism, however, plyometric training has been adopted by coaches and athletes of all sports and disciplines from pure power athletes to team sports to endurance events such as rowing and long distance running.

Research has shown that the combined effects of strength training and plyometric training can elicit greater performance effects than strength training or maximal power training alone and that plyometric training alone can improve maximal strength in athletes who have not previously participated in strength or plyometric training.

The keys to achieving optimal adaptations from plyometric training are technique, progression, and periodization. This is a highly specific training method designed to develop explosive power and to be implemented with a well-thought out annual training plan and in conjunction with other proven methods for improving explosive power.

PLYOMETRICS AND THE ANNUAL PLAN

The goal of plyometric training is development of explosive power or "speed strength". In order to achieve this, plyometric training must be included in the annual plan at the appropriate time. The "specific preparation" or "power" phase is generally when coaches can start to add plyometric drills to the workouts, however, this may vary between sports and events. The important thing to remember is that in order to achieve the correct intensity and movement velocity, you should not prescribe plyometrics during periods of extremely high volume training or when athletes are in an overly fatigued state.

As with any training method, the important principles of program design should not be overlooked. The following things should be considered when designing a plyometric training program: frequency, volume, intensity, recovery, and progression.

Frequency: This refers to the number of plyometric workouts per week in a given training cycle. The frequency of plyometric type of training should be between one and three sessions per week depending on the training loads from other areas.

For most team sports, one-two sessions/week will be sufficient and the plyometrics can be combined with strength training workouts or speed training on the field. For track & field or pure power events, two-three sessions is the norm with one or more of those being a combined strength training/plyometric session.

The intensity of the drills will play a role in determining the frequency of the sessions and the rest between sets and/or sessions. It is important to allow adequate recovery between plyometric training sessions. This can be anywhere from 24 to 48 hours depending on the volume and intensity.

Volume: Volume in a plyometric training session is expressed as number of foot contacts. A foot contact is counted each time a foot or both feet together contact the training surface per workout. The following guidelines can be used for assigning volume to a plyometric training program:

Beginner: no more than 80-100 foot contacts/session
Intermediate: no more than 100-120 foot contacts/session
Advanced: no more than 120-140 foot contacts/session

Volume should also be varied based on an athlete's body weight. For example, the total volume of a plyometric training program for a 250+ lb athlete should be 40-50% lower than that for a 150-200 lb athlete. This is a very important consideration when designing programs for groups of athletes varying in size.

Volume can also be expressed as distance (i.e. 30m forward bounds) and as sets and repetitions similar to strength training.

Intensity: Intensity refers to the amount of stress placed on the athlete's body (muscles, joints, ligaments, tendons) during an exercise or movement. Generally, intensity in strength training can be varied by changing the load, however with plyometric training monitoring intensity is more complicated.

For example, skipping, which is plyometric in nature, causes far less stress on the muscles and joints than a depth jump or bounding. Intensity of a drill is related to the following factors:

- The number of feet (1 or 2) that make contact with the ground upon landing. (A single leg take-off and a double leg landing results in far fewer landing forces than a single leg take-off and a single leg landing.)
- The direction of the movement (horizontal or vertical).
- Speed.
- How high the athlete's body mass is raised from the ground. (The higher the height of the drop, the greater the landing forces will be.)
- Athlete's body mass and/or external weight or resistance used.

As with strength training, the general rule is that as intensity and/or complexity increases, volume should decrease.

Recovery: Plyometric drills and power training involve maximal efforts when performed properly. Because of this, adequate recovery between both sets of exercises and workouts is necessary. Extremely high intensity drills such as depth jumps may require short rest periods between repetitions (5-10s) followed by longer rest periods between sets (2-3 min). Allow at least two days recovery between workouts for the same body parts (i.e. upper body vs. lower body).

Progression: Plyometric training, like any other training method, should follow the principle of progressive overload. Even advanced athletes risk overtraining or injury if they are thrown into a high intensity program unprepared.

Plyometric training should progress from lower intensity in-place jumps and hops to medium intensity standing or forward-moving jumps, hops and bounds to higher intensity double and single leg standing, forward or drop jumps, hops and bounds. This progression should happen over the course of 6-12 weeks depending on the athlete and sport or event that you are programming for.

SPECIFICITY

Exercises included in a plyometric training program should reflect the concept of specificity. This includes both velocity and direction of movement as well as specific muscle groups. If you want your athletes to jump higher or farther, you must include in the program exercises with those parameters. If your goal is to improve speed in a certain direction, then your athletes must train to utilize high rates of force development and optimize their ability to use the SSC.

The following table lists various categories and types of plyometric drills that can be included in a plyometric training program:

Jumps in Place	Standing Jumps	Hops	Bounds	Upper Body
Squat Jump	Standing Long Jump	Single Leg Zig-Zag Hop	Alternate Leg Bounds	Clap Push-Up
Split Squat Jump	Standing Triple Jump	Double Leg Speed Hop	Forward Bounds (double leg)	Medicine Ball Chest Pass
Tuck Jump	Box Jumps	Single Leg Hop	Combination Bounds (single/double)	Drop Push-Up
Single Leg Tuck Jump				Medicine Ball Side Throw

In order to achieve the desired training effect from the SSC you must find the optimal combination of resistance, speed, and specificity (movement patterns or direction and distance) and pair that with a program that controls closely the frequency, duration, volume and intensity of training. But most importantly, plan for the most important consideration in training for explosive power: RECOVERY.

Recommended reading (for greater detail into the development of plyometric training, sample programs and exercise descriptions):

High Powered Plyometrics: ***77 advanced exercises for explosive sports training***
James C. Radcliffe, MS
Robert C. Farentinos, PhD
Human Kinetics, 1999

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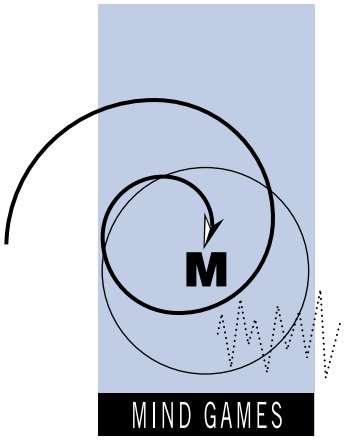


Routines, Rituals, and Performing Under Pressure

by Sean McCann, PhD
Performance Services USOC Sport Psychologist
(Strength and Power Sportfolio)

I have a pre-shot routine for every shot, but none is more important than when I have to hit a big drive in a pressure situation. Not only does my pre-shot routine allow me to focus on the task at hand, but it also keeps me in my natural rhythm. Every 300-yard bomb in my bag starts with a pre-shot routine that has a calming effect on me as much as anything. - **Tiger Woods**

We are what we repeatedly do. Excellence then, is not an act, but a habit. - **Aristotle**

Pre-competitive routines have been studied by sport psychologists for a long time, and there is good evidence that routines increase consistency of an athlete's thinking, feelings, and pre-sport behavior. Because of these effects, routines also produce more consistent sport behavior. This produces better results. Routines therefore, can make you a better athlete. There are a number of reasons why routines work, but you may find that many of your athletes resist routines. At the USOC, I have heard all sorts of reasons for this resistance, including:

"It slows me down"

"I don't want to get locked into anything"

"I like being flexible in case things change"

"I used to do it, and it was helpful, but I just stopped. I'm not sure why."

My personal opinion is that many athletes don't develop effective routines simply because nobody ever taught them how important and helpful they are. Take Tiger Woods, for example:

My pre-shot routine, taught to me years ago by my father, didn't come naturally or easily. Like most kids I was of the grip-it-and-rip-it mentality. I had to learn patience and how to find my natural rhythm. Pop finally convinced me a pre-shot routine was necessary for consistency, and I've used the same one ever since. - **Tiger Woods**

If even Tiger Woods resisted routines at the beginning, why would you expect your athletes to suddenly embrace them? As a coach, you need to develop a sales pitch that gets past initial resistance and makes a compelling argument for change. One tactic is simply to list all the things that routines do for you, by both ensuring good things happen and preventing bad things from happening.

ROUTINES- HELPING AN ATHLETE DO THE RIGHT THINGS

1) A routine increases the sense of familiar in a new environment. Routines are portable, transferable, and adaptable. Remind your athletes that an iPod and headphones can mentally transport you from a treadmill in a hotel basement to a familiar run in the woods when you last listened to this music. Similarly, a routine can make even the strangest sport environment seem normal, familiar, and most importantly, comfortable. This is a powerful effect when the environment of the competition is full of distractions.

I cannot overemphasize how helpful this has been to countless Olympic medal winners I have known when faced with the circus of the Games.

2) A routine helps an athlete stay active and focused on useful behaviors. One of the worst things an athlete can do in a high pressure environment is to stop and think about it. At the Olympics, when I see an athlete starting to freeze up, glaze over, and think too much (usually about the dreaded "what ifs"), I will try to get them talking, moving, and laughing. Much better than this emergency interaction by a sport psychologist, however, is a routine that keeps an athlete moving, on a schedule, and focused on the things that help.

3) A routine enhances feelings of control and confidence. Going through the same routine in practice and competition is a useful reminder that you have done this a thousand times. The old expression of "practice like it is a competition, compete like it is a practice" describes an athlete with an effective, consistent routine. I have heard from countless athletes that simple routines enhance a sense of control and confidence. The Tiger Woods quote at the top of this column says it plainly. A routine helps an athlete feel in control, no matter what the stakes of success or failure.

4 Routines help make useful behavior automatic. Some psychologists believe that over 90% of our behaviors are automatic habits or unconscious, learned behavior patterns. This is why parents and first coaches in a sport play such a critical role in introducing positive behaviors. If you learn how to do something the right way at the beginning, you don't have to fix mistakes later, because you always do it the correct way, without any conscious thought. John Wooden was famous for teaching his Freshman basketball players the correct way to put on socks and tie sneakers. As a coach, if you invest the energy at the front end, you have the opportunity to create a positive routine for your athlete's entire career. These routines will become automatic and help the athlete avoid all kinds of challenges that many athletes struggle with.

5) Routines increase the opportunity for the brain to focus on the proper things. Our brains have limited capacity. The remarkable increase in the number of accidents for people on cell phones is an example of this. Routines that take care of all the little things an athlete has to do to get ready, free up brain space to focus on the things that really matter. If you want to have an excellent warm-up, you must be fully focused on the warm-up, and not wondering about something left undone.

ROUTINES- HELPING AN ATHLETE AVOID DOING THE WRONG THINGS

6) Routines help reduce thinking and decision making. When an athlete is stressed, anxious, and concerned about outcomes (a typical state for many athletes at their biggest competitions), thinking often transforms to worry. In addition, decisions about simple things become overemphasized, and athletes will often freeze up, wasting valuable time as they agonize over which pair of shoes to put in their backpack. Athletes weighted down with worry or unable to make a decision are wasting energy. At big events, energy is a precious commodity. An effective routine eliminates decisions (because, if you always do it the same way, you don't have to decide), and keeps an athlete too busy to think too much.

7) Routines help prevent dumb mistakes. Under greatest pressure, athletes begin to leak energy, and become more vulnerable to a variety of distractions and challenges. When an athlete is preparing intently for a key performance, the last thing they should be doing is making critical decisions. Unfortunately, I have seen Olympic medals lost by athletes who decide to try something new, or do something new, based on a decision made under pressure. An effective routine keeps an athlete busy, productive, and reduces the probability that the athlete will make a bad call, making a mistake that they cannot recover from.

THE COACHES ROLE IN BUILDING ROUTINES

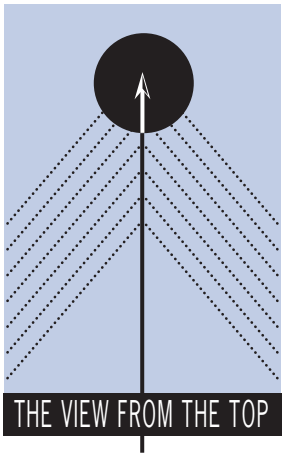
Coach Shula had a very strict schedule in the last two days before the Super Bowl. He never let us go more than 2 hours without checking in for something. It helped us stay focused on the game. – **Larry Czonka, member of 1972 "Perfect Season" Miami Dolphins**

We first make our habits, and then our habits make us.

- John Dryden

While most coaches will not follow John Wooden's example by teaching their athletes how to dress properly for practice, all coaches can benefit from understanding the value of this effort. By starting with the most basic aspects of a sport, and ensuring that athletes develop great routines, a coach begins to develop the foundation of great performances. While it can take a tremendous investment of effort by a coach to develop new routines, the cost of not making this investment can be high. As the Larry Czonka quote suggests, Don Shula knew the cost of losing focus at the Superbowl, and invested energy in creating a program that prevented that loss of focus.

On the other hand, an argument can be made that a coach will end up using a great deal more energy if they don't help athletes develop great routines. As the John Dryden quote suggests, an initial investment of energy in developing good habits will create a great return down the road. I see this all the time in sports, and I'll never forget what a great coach once said to me. "Why are all these coaches screaming from the sideline? If they had done their job in practice they wouldn't have to say anything during a game." If a coach develops great routines, and the athletes develop great habits, then the habits make them great players.



The View From the Top: Mike King— BMX Cycling

Mike King has been involved with BMX for over 30 years. Recently, Mike has been named by USA Cycling as the BMX Program Director.

BMX will be an official Olympic event in Beijing. Can you give us a brief description of the event?

The BMX event at the Beijing Olympics will include 32 men and 16 women. The event starts with two time trials taking the better of two runs to seed the riders into brackets. The actual race will include 8 athletes starting at once atop a 30 foot start ramp riding over several jumps along with asphalt corners called "berms". The actual length of the BMX track is 390 meters for the men and 370 meters for the women. Part of the men's course is highlighted by a huge jump over the women's second turn (an estimated 40 foot leap).

The event has a large variety of components: endurance, strength, agility, balance and a huge dose of tactics. How do you balance all of those in your training?

BMX racing includes all of the mentioned components as well as superb bike handling skills and luck which can not be taught! Our athletes are focused on a strength and power program, hand/eye coordination test (reaction times), Random start practice on a replica Beijing start ramp with timing, SRM power meter testing which measures leg power measures in kilo watts, and specific sprint work on the BMX bike. All of this is managed through detailed communication between athlete, sport performance leaders, coaches, and myself. We also outline a race schedule considering this is the best form of training.

A model of the Beijing course has been built in Chula Vista, how much will that assist your athletes in training?

The Beijing replica course will be a huge asset to our athletes since it's the only warm weather facility in North America and the only

Ribbon cutting ceremony for the new BMX course at the ARCO Training Center in Chula Vista, CA.

L to R: Donny Robinson, Mike Day, Steven Cisar

place in the world which mirrors the exact course in Beijing. This was accomplished by hiring the exact same track builder and using the exact blueprints of the Olympic track.

What are the characteristics of a BMX racer?
The characteristics of a BMX racer include a lean body type, yet very strong with explosive power. This type of athletes is mind strong as many "things" can happen in a short 30 second race with seven other competitors. A good BMX racer also has outstanding bike handling skills which takes years to fine tune.

How did you get involved in coaching BMX?
I got involved in coaching BMX because of my early success as an elite pro in both BMX and downhill mountain biking. I was able to learn from other coaches and from other cycling disciplines, to create a style that works well with each athlete. I was also told by a few that I motivate with words and experience.

Who has served as your coaching role models?
A few of my coaching mentors include Dr Richard Parker, Dean Golich, Doug Thralls, and Stephen Girard.

What are the three most important aspects, issues or areas that you stress with your athletes when they are in competition?
The most important aspect on race day for a BMX athlete is the mental state of mind and knowing they believe in themselves. Motivating these athletes is important because they believe they have worked harder than anyone else and the preparation is complete. Details, each athlete needs to know the track design, gear ratios, and nutrition for the event. Lastly, the rider needs to commit and never hesitate or second guess there abilities.

What is your favorite piece of advice that you have received?
Believe in yourself.

The Road of Portion Control

By Laura Anderson MS, RD
USOC Performance Services (Acrobat and Combat Sportfolio)

Would you like a "portion" or a "serving"? This seemingly simple question, if asked to the average individual may not raise a brow. However, for athletes who are diligently tracking their food intake, this question should be regarded with great importance.

I say this with great importance because in today's society portions are out of control, and have become increasingly larger over the years. Athletes who are constantly on the circuit or traveling to train or compete may have difficulty establishing set eating patterns when they are unsure of how much they are being served or eating. An example of how portions have "blown up" over the years is:

This isn't meant to scare athletes and coaches away from eating out. Let's face it, the athletes' lives are in the fast lane a majority of the time and eating on the go may serve as the only option when time is limited. During travel, hotels and accommodations may provide minimal facilities for food preparation or storage leaving athletes little choice other than to utilize local eateries. It is very important to have strategies in place to assist an athlete in staying well nourished and hydrated. Use this information to help your athletes make better food choices.

PORTION VS. SERVING

A "portion size" is defined as the amount of food you choose to eat. Portions can be bigger or smaller than servings listed on the Food Label or on the Food Guide Pyramid. In contrast, "serving size" is a standard unit of measure of food. The serving sizes on the Nutrition Facts label are based on government established reference serving amounts and can help athletes compare nutrient information among similar foods.

Food label information is very useful while traveling in the United States, however during international travel, label reading may not be an option. Food labels may be in a different language or nutrient information may be in a unit of measure unfamiliar to athletes. It can become frustrating when athletes are not able to recognize what a true serving size is and eat too much or too little. This may increase their risk for injury or an illness, delay recovery times, and may lead to poor performance and other physical and mental health issues.

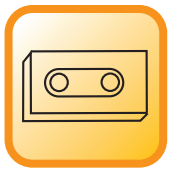
ACTUAL SERVING SIZES:

BREAD, CEREAL, RICE, AND PASTA GROUP (Grains Group)
1 slice of bread
½ English muffin
About 1 cup of ready-to-eat cereal
½ cup of cooked cereal, rice, or pasta
VEGETABLE GROUP
1 cup of raw leafy vegetables
½ cup of other vegetables cooked or raw
¾ cup of vegetable juice
FRUIT GROUP
1 medium apple, banana, orange, pear
½ cup of chopped, cooked, or canned fruit
¾ cup of Fruit Juice
MILK, YOGURT, AND CHEESE GROUP (Milk Group)
1 cup of milk or yogurt
1 ½ ounces of natural cheese
2 ounces of processed cheese
MEAT, POULTRY, FISH, DRY BEANS, EGGS, AND NUTS GROUP (Meat and Beans Group)
2-3 ounces of cooked lean meat, poultry, or fish
½ cup of cooked dry beans or ½ cup of tofu counts as 1 ounce of lean meat
2 ½ ounces soy burger or 1 egg counts as 1 ounce of lean meat
2 tablespoons of peanut butter or 1/3 cup of nuts counts as 1 ounce of meat

It is important during preparation for travel that nutrition training is also occurring. Athletes need to be trained to estimate serving sizes to meet their needs. For example: Bob (a Judo athlete), follows a 2400 calorie eating program and has been trained on how to distribute his intake out throughout the day. He typically uses the nutrient labels on the food selections in the cafeteria to make sure he is staying within his calorie needs and incorporating

the appropriate macronutrient amounts. Without the nutrient labels available, Bob may have to rely on his nutrition training to stay within his prescribed calorie budget. It is common for athletes to not know what 1 ounce of a food represents or what constitutes a "serving" of fish or chicken. Below are some examples to assess portion sizes.

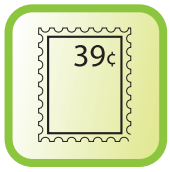
3 ounces of meat is about the size and thickness of a deck of playing cards or an audiotape cassette.



Bread (1 ounce) is approximately the thickness of a CD case.

Hard cheese (1 ounce) is approximately the size of 4 dice

Butter or margarine (1 teaspoon) is approximately the size of a postage stamp.



Cold cereal, berries, popcorn (1 cup) is approximately the size of a baseball

Mixed nuts, dried fruit, granola, almonds, walnuts, peanuts (1/4 cup) is approximately the size of a golf ball

EDUCATION FOR TRAVEL

Additional education of appropriate serving sizes prior to departure should include the investigation of food at local shops and restaurants that the athletes will be utilizing. Travel agencies, competition organizers, embassies, or other athletes who have traveled to the destination may be useful resources to gain this information. Knowing meal options, serving sizes, and cooking styles ahead of time will minimize problems. Menus can often be planned in advance, which is especially important for athletes with special dietary needs.

A beneficial activity for teams prior to international travel is to have an ethnic night where food information about the destination can be shared. Athletes can become familiarized with the types of food that will be available to them, learn about different eating customs and learn how to exchange serving sizes appropriately. Athletes can prepare a sample schedule consisting of where, when and what they are planning to eat each day to ensure energy needs are met or overconsumption isn't occurring. It is important to encourage athletes to wait until after their competition to try new ethnic foods. Many countries have different standards of hygiene and food quality control than the United States and consequences of gastrointestinal upset can be very serious.

Lastly, even if your team is lucky enough to be staying in a facility that provides communal eating or a buffet style food service, "portion distortion" can get the best of the athletes. Athletes may see their international travel as a vacation and become mesmerized by the assortment of different foods or distracted by the eating habits of those around them. The more education that can take place prior to travel, the better an athlete will be prepared in maintaining their nutrition goals and able to compete at an optimal level.

Roasted Pork with Avocado Salsa

Serves 4

Ingredients:

Roast Pork

20oz	Pork Tenderloin
2Tbs	Newman's Own Mesquite with Lime Marinade (or your favorite flavor)

Avocado Salsa

1 cup	Frozen corn, thawed
1 cup	Canned Black beans, drained and rinsed
1 ea	Avocado, diced
2 ea	Roma Tomatoes, diced
1ea	Juice of 1 lime
2Tbs	Fresh cilantro, chopped
1Tbs	Fajita Seasoning (or MRS DASH SW Chipotle for lower sodium option)

Preparation:

1. Rub pork with marinade, and place on a foil lined baking sheet
2. Preheat oven to 425 F.
3. Roast at 425 F for 10 minutes; than reduce heat to 350 F and roast for 20-30 minutes or until internal temperature of pork reaches 150 F.
4. Once pork reaches 150 F, remove from oven, cover with foil, and allow to rest for 5 minutes before slicing.
5. While the pork is roasting, combine all ingredients for the avocado salsa in a large bowl.
6. Top sliced pork with salsa and serve over BBQ cous cous, or your favorite grain.

Nutrition per serving:

Calories: 280; Total fat: 11g Saturated fat: 3g; Protein: 28g; Carbohydrates: 22g; Fiber: 7g; Sodium: 470mg (300mg if using MRS Dash)

Kitchen Tips:

1. Avocado is actually a fruit and has the most fiber of any fruit, contains over 20 vitamins and minerals and has more potassium than a banana.
2. Although avocados are high in fat, about 70% of the fat is the heart healthy monounsaturated fat.
3. Pork tenderloin is about 94% lean, is low in saturated fat and a great protein choice that is, easy to cook, and can be enhanced by any marinade or seasoning blend.

Created by: Adam Korzun, MS, RD, LDN

BBQ Couscous

Serves 4

Ingredients:

1 cup	Couscous
1 cup	Water
1Tbs	Olive Oil
¼ cup	BBQ Sauce (your favorite style)

Preparation:

1. In a sauce pan, bring water, BBQ sauce, and oil to a boil.
2. Stir in couscous, cover and remove from heat.
3. Allow to stand for 5 minutes.
4. Fluff with fork and serve.

Nutrition per serving:

Calories: 213; Total fat: 4g Saturated fat: 1g; Protein: 5gg; Carbohydrates: 39g; Fiber: 2g; Sodium: 153mg

Kitchen Tips:

1. Although we often consider it a grain, couscous is actually a pasta which is made from semolina flour and can be cooked in less than ten minutes.
2. You can boost the antioxidants of your couscous in no time by adding your favorite frozen vegetables right to the boiling water before you add the couscous.

Created by: Adam Korzun, MS, RD, LDN

60-SECOND SUMMARY

The Blood Lactate Response to Exercise

by Krista Austin, PhD
Manager, USOC Performance Services Laboratory

Often the word "blood lactate" or "lactic acid" is thought of as only being associated with monitoring endurance training. However to ask any athlete involved in team, speed or even technical sports such as tennis, one rapidly realizes that these sports involve very high levels of lactate in the blood. Thus, examining the ability of an athlete to tolerate the accumulation of lactate and how well they remove it can be applied to these types of sports. This article will help to further define what lactate is, how and when to measure it, the relationship to measures of heart rate and rate of perceived exertion (RPE) and how it can be applied in multiple sport settings to monitor performance.

DEFINING LACTIC ACID AND BLOOD LACTATE

Lactic acid is a by-product of metabolism and is formed in several tissues of the body including skeletal muscle, the intestines, liver and heart. It is continually produced at rest and during exercise. Once lactic acid diffuses out of the muscle it appears in the blood as lactate. The concentration of lactate that appears in the blood is reflective of the balance, of production and removal. At rest, blood lactate levels have been reported to range from less than1mmol/L in endurance athletes and up to 2.5mmol/L in sports that are highly anaerobic in nature. During high intensity exercise that is close to maximal, lactate levels have been reported to range between 7-25 mmol/L. The highest blood lactates for endurance athletes tend are approximately15mmol/L and as the event/sport becomes more anaerobic higher values up to 25mmol/L are seen. This is common in sports such as ice hockey, sprint events such as the 800 meters and power sports such as downhill skiing. The goal in testing blood lactate levels is to increase tolerance and improve clearance at a ratio that is respective to the nature of the sport.

ASSESSING BLOOD LACTATE LEVELS

The protocol for assessing blood lactate levels should always be reflective of the event/sport duration. Thus if you are assessing lactate for a sport such as ice hockey which requires repeated sprinting on ice, testing should be done on ice following a repeat sprint skate test. If it is for a sport such as triathlon in which a steady state is held for the majority of training bouts, then lactate values need to be monitored in the steady state.

Below are various ways to utilize lactate monitoring for a variety of situations. When measuring lactate, it must be remembered that the rate of lactic acid production in the muscle is several minutes ahead of appearance in the blood. Timing the point at which a blood sample is taken will be emphasized for each sport.

ENDURANCE SPORTS

Assessing blood lactate in endurance sports is most commonly done during an incremental exercise test to identify a relationship of blood lactate to pace, power output or stroke rate. In order to obtain accurate measures of blood lactate each stage of the test must be long enough to allow for a steady state to be obtained. Research has shown that this requires anywhere from a 5-7 minute stage duration. Testing to identify workloads corresponding to blood lactate values of up to the 4mmol/L range should not last more than a total of 30-45minutes, allowing for 6-7 stages to be completed. Heart rate and RPE should be measured along with the blood lactate response so that a full perspective of the objective and subjective response to the work intensity can be determined. Together this can then serve to help identify training zones and monitor the "lactate threshold" which has been shown to be highly correlated to endurance performance. A maximal lactate value is then traditionally obtained from a maximal incremental test to exhaustion or at the end of a race. Blood lactate removal is then monitored by measurements taken every 2 minutes for 10 minutes following the exercise bout. This should also improve with training. The following are training zones which can be developed from the blood lactate profile:

Adaptations desired from monitoring the blood lactate profile of an athlete are dependent on event duration and will determine how frequently the athlete trains in each zone. Almost all athletes are looking for lower heart rates or a faster pace at a given blood lactate level and an improvement in the workload achieved at the "lactate threshold". For endurance athletes that compete in events of 30 minutes or greater, the greatest goal is to keep blood lactate levels low and to have the ability to "clear" lactate quickly once it accumulates in the blood. In contrast for the 1500m runner who competes for 3:30-4:30 minutes, lactate tolerance training is important because it enables the athlete to sustain high intense bouts of exercise and tolerate high blood lactate levels. However, training the "lactate threshold" and factors associated with endurance will allow for improved lactate clearance and thus improved recovery from high intensity workouts that produce high lactate levels. It must be noted that Zones 1-3 will feel rather easy to this type of athlete but this is important as it is intended to be a "lighter" training day that allows time for recovery from previous high intensity workouts.

TEAM AND TECHNICAL SPORTS

The intricacies of many team and technical sports present a challenge to assessing the energy demands of these sports. Sports such as tennis, soccer, ice and field hockey have been classified as anaerobic endurance events. The average blood lactate values reported during team or technical events is anywhere from 4-8 mmol/L with peak values occurring at 15-25mmol/L after

Zone	Goal	Blood Lactate (mmol/L)	RPE (6-20)	% of Max Heart Rate
1	**Recovery/Long Slow Distance** Promotes recovery and lactate clearance; maintenance of cardiovascular adaptations **Duration: 30-45 minutes**	≤1.0	6-9	50-70%
2	**Endurance:** Develop peripheral adaptations; increase fat metabolism, aerobic enzymes, mitochondria, capaillarization; Improve lactate clearance **Duration: 30 minutes- 3hours**	1.0-2.5	1012	70-75%
3	**Steady State:** Increase lactate threshold and maximal aerobic capacity **Duration: 30 - 60 minutes**	2.5-3.5	10-12	75-80%
4	Tempo/Threshold: Increase lactate threshold and maximal aerobic capacity **Duration: 5-30 minutes**	3.5-4.0	15	80-90%
4	**VO_{2max} Intervals:** Improve lactate tolerance and central training adaptations: increased stroke volume, maximal aerobic capacity **Duration: 3-5 minute**	> 4.0-Max	16-18	90-95%
5	**Sprint/Power** Increase anaerobic capacity and lactate tolerance (buffering capacity) **Duration: 30 sec- 2 minutes**	≥ 7,0-Max	10-20	95-100%

sustained intensive bouts. Average values reflect time spent on the sideline and recovery time between points and plays; thus they are influenced by time for clearance to occur. Research on sports of anaerobic endurance has suggested that tolerance to lactate and the rate of clearance along with fatigue rate to repeated sprint bouts is of most importance and correlates well to performance. In addition, tests must be sport specific to find a relationship to performance.

An example of a sport specific test is the Reed Repeat Sprint Skate test for ice hockey. Athletes perform six all out 55m sprints on ice with 30 seconds recovery between each. Blood lactates are monitored immediately after and then every 2 minutes for 10 minutes following the skate. Removal rate and fatigue index is calculated. This test closely mimics sport play and can allow information to be provided on areas of conditioning needed for the athlete (i.e. lactate tolerance or clearance). For the coach this information along with recovery heart rate provides information on the amount of time needed off ice to recover from an intensive bout on the ice. The athlete's progress is considered to be improved if the 55m sprints can be performed faster and/or with a lower fatigue index. Improved speed on ice is often associated with increased lactate tolerance and a reduced fatigue rate is associated with improved lactate removal. Approximated heart rate zones from the maximal heart rate obtained during testing and RPE can be used in creating on and off ice conditioning sessions to improve both of these areas. Research by Snyder and Foster have found the relationship of blood lactate, heart rate and RPE to be positive and overlap. RPE and heart rate values can be found in the above table.

POWER AND SPEED EVENTS

Events such as alpine skiing, BMX cycling, 800m run performance and 200m swimming are all examples of anaerobic power events that last two minutes or less and require an ability to tolerate high levels of blood lactate. Frequently, athletes in these events are also competing in additional events or are required to compete in rounds within the same day or the following day. Thus the ability to remove lactate is also critical to recovery for the next race. In addition, many of them require a technical proficiency to be performed under these circumstances.

Testing for these sports are specific to the event and need to evaluate the technical efficiency at critical velocities. The 3x300m short duration track test to assess anaerobic running efficiency in 400/800m runners is an example of such testing. Athletes perform three 300m intervals at 80%, 90% and 95-100% of their 300m personal best. Recovery intervals between the 1st and 2nd 300m are 10 and 20 minutes respectively. Blood lactates are taken at the following times:1) 2 and 5 minutes following the first 300m run, 2) 2,5 and 8 minutes after the second 300m run and 3) at 5, 8, and 12 minutes of the final run. Heart rate is also recorded. Peak blood lactates and heart rate for each repetition is graphed against velocity. The slope and shift of running velocity versus blood lactate curves across time will indicate whether or not the athlete has adapted to training. Athletes can improve performance by two means: 1) lactates will be lower at the same velocity indicating an improved clearance rate and 2) peak lactate and maximal speed is increased indicating an increased anaerobic capacity.

Traditional blood lactate profiles for identifying the lactate threshold and aerobic training zones are not commonly done in sprint athletes however, this doesn't mean that measuring lactate is not a useful tool. Instead, it is recommended that blood lactates are further assessed in the field during these specific training sessions, along with heart rate and RPE, to ensure the athlete is not training too hard or outside of the blood lactates identified for those zones.

HOT OFF THE PRESS

This is a great site- great information- podcast for coaches on Periodization—should be bookmarked by every coach. The material is presented by track and field and is designed for track and field, but the information presented is useful for any coach.
Produced by The Canadian Athletic Centre
http://www.athleticscoaching.ca/?pid=1&spid=105

Presentations made at the International Council for Coaches Education in Beijing, China on August 30-September 3 of 2007
International meeting regarding Coaches Education and what is current on the World scene.
http://www.icce.ws/conference/beijing2007/index.htm

National Coaching Education Conference- June 5-7 in Park City, Utah
Conference is for those who are involved in Coaches Education at any level—NGB, Colleges, Universities and community organizations
http://www.aahperd.org/naspe/ncace/template.cfm?template=main.htm

Pipeline Leadership for America's Youth Sports (PLAYS)- April 16-18 at the Colorado Springs OTC
Great lineup of speakers and topics designed to improve Youth Sports. If you have an interest in Youth Sports- this is the Conference to attend. Space is limited.
http://guest.cvent.com/EVENTS/Info/Summary.aspx?e=9d5900c9-b846-41ba-a76d-495213cdad2a

Parenting MY Champion: Getting Started.
A great tool produced by USTA for Tennis Parents. Good concepts for coaches and parents to use. The second link is a Parent Behavior Checklist.
http://dps.usta.com/usta_master/usta/doc/content/doc_437_110.pdf
http://dps.usta.com/usta_master/usta/doc/content/doc_437_105.pdf

Heat and Hydration Guidelines.
The hot weather is coming soon and each year we have a number of deaths in sport related to heat and hydration issues.
http://images.ussoccer.com/Documents/cms/ussf/Heat_Hydration_Guidelines.pdf

USOC DIRECTORY FOR
THE COACHING RESOURCES STAFF

CHIEF EXECUTIVE OFFICER
Scherr, Jim	719/866-4701
FAX	719/866-4141

CHIEF OF SPORT PERFORMANCE
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Tracy Lamb- Director	619/482-6101
FAX	619/482-6200

OLYMPIC COACH E-MAGAZINE

The U.S. Olympic Committee Coaching and Sport Sciences Division reminds you that our quarterly magazine, OLYMPIC COACH, is now available electronically as the OLYMPIC COACH E-MAGAZINE.

This quarterly publication designed for coaches at all levels can now come to you via e-mail. The quarterly e-mail provides a summary of each article in the magazine with a link that takes you directly to the full-length article. The best news is that OLYMPIC COACH E-MAGAZINE is available to all coaches and other interested individuals free of charge.

To receive your complimentary subscription, go to the web site at http://coaching.usolympicteam.com/coaching/ksub.nsf, and sign up. The subscription information that you provide will not be shared or sold to any other organization or corporation. Please share this opportunity with other individuals in the coaching community. The PDF version of past editions of the Olympic Coach magazine are available at:
http://coaching.usolympicteam.com/coaching/kpub.nsf

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