

Running on Empty

The Newsletter of the Bendigo University Athletics Club

Volume 4, Issue 2, May 2010

Train properly with a heart rate monitor

Using a **Heart Rate Monitor** takes the guesswork out of your runs. A heart rate monitor not only gives you permission to run slower, but also tells you when you are not running hard enough. Runners - it's time to banish that old belief "training faster is better;" get rid of the guilt when your training run wasn't quite as fast as what you would have liked. What we now know is that to reach your running goals you must train at the right intensity. To enable us to train at the right intensity, we need to know what our heart rate is and follow a proper training program with a mix of speed or interval workouts, tempo runs, recovery runs and longer runs all done in your target heart rate zone. How do we know what our target heart rate zone is? Well since it is directly related to your maximum heart rate, first, we need to have a look at determining your maximum heart rate.

The first, most important piece of the puzzle, is finding your maximum heart rate. There are many schools of thought on this one and probably the one that we hear about most and that has been around for years is:

Maximum Heart Rate (MHR) = $220 - \text{"your age"}$ (for a 40 year old this would be $220 - 40 = 180$, making 180 beats per minute your MHR)

However, Runner's World has developed a more reliable method, which seems to be more accurate for most runners. It is:

For runners under 40: $\text{MHR} = 208 - (.7 \times \text{your age})$
For runners 40 and over $\text{MHR} = 205 - (.5 \times \text{your age})$

You could also use the field test which is probably the most accurate indication of your MHR. Wearing a heart rate monitor, and making sure that you are well hydrated, first do a proper warm up run. Then at a track or a fairly steep hill run hard for 2-3 minutes. Repeat this 2 more times trying to push yourself harder each time. On the third and last repeat, push yourself like you are going for the gold. Immediately after the last repeat, check your heart rate and this number should be a good indication of your maximum heart rate.

With this information, you can now figure out what your target heart rate should be for your desired workout. The heart rate zones that you want to run in will be dependent on the intensity of the workout that you are trying to achieve. Familiar workouts and their target heart rate zones are:

| | |
|--|----------|
| Recovery, Long or Easy Runs | 65%-75% |
| Tempo runs | 87%-92% |
| Interval Repeats (shorter bursts of speed during your run) | 95%-100% |

These are percentages of your MHR. You could also construct different target zones depending on the workout that you are trying to achieve.

A measurable advantage of training with a heart rate monitor is the ability to track your improvement. If you consistently run a 9 minute mile with an average heart rate of 145 beats per minute, as you improve, your heart rate will lower for that same 9 minute mile. So instead of training at a pace of 9 minutes per mile, instead you train at an average of 145 beats per minute. You will then constantly be working your aerobic ability and will eventually be training at a faster pace than a 9 minute mile

Another useful piece of information that your heart rate monitor can provide is your resting heart rate (RHR). This is much easier to figure out than your Maximum Heart Rate (MHR). All you need to do is remember to leave your heart monitor on your night stand before you go to bed and then first thing in the morning, without moving around too much, put it on and you have your RHR. Do this for a week or so to get a good indication of your true RHR. As you monitor your RHR, you will probably see days that your heart rate is higher than normal. This can be a result of many things, one of which is over-training. This is useful

information because then you would know to back off your workout and take a rest day or workout in your recovery zone instead of doing intervals or pushing yourself too hard.

For those that are new to heart monitors, it is a good idea to have an observation period, where you just monitor your runs, how you feel and what your heart rate is, also taking into consideration what your RHR was that morning. Pay attention to your body, set realistic goals and heart rate monitors can be the greatest asset to any athlete's training schedule.

Injury tips

Calf sprains

The calf muscles consist of the gastrocnemius which is the big muscle at the back of the lower leg and the soleus muscle which is a smaller muscle lower down in the leg and under the gastrocnemius. Gastrocnemius is the larger of the two muscles which attaches above the knee joint and inserts into the heel bone via the Achilles tendon. The soleus attaches below the knee joint and then also to the heel via the Achilles. Either of these two muscles can be strained (torn). Both muscles act to plantarflex the ankle (point the foot away from the body). As gastrocnemius attaches above the knee it also helps with bending the knee. In this position, with the knee bent, soleus becomes the main plantarflexor. If the soleus muscle is damaged you might get pain lower in the leg and also pain when you contract the muscle against resistance with the knee bent. All muscle strains are graded from 1-3, with grade 1 being a minor tear, with up to 10% of fibres involved. A grade 2 tear involves up to 90% of the muscle fibres and a grade 3 is over 90% of fibres torn, or a full rupture. This usually occurs at the muscular tendinous junction or the Achilles tendon itself.

Symptoms of calf strain include:

Grade 1:

- A twinge of pain in the back of the lower leg.
- May be able to play on.
- Tightness and aching in the 2-5 days after.

Grade 2

- Sharp pain in the back of the lower leg.
- Pain when walking.
- There may be swelling in the calf.
- Mild to moderate bruising.
- Pain on resisted plantarflexion
- Tightness and aching for a week or more.

Grade 3

- Severe immediate pain.
- A sudden pain at the back of the leg, often at the muscular tendinous junction (see image below).
- Inability to contract the muscle.
- Considerable bruising and swelling.
- In the case of a full rupture, often the muscle can be seen to be bunched up towards the top of the calf.

A calf strain may be more likely in athletes who have tight calf muscles.

Treatment of calf strain - What can the athlete do?

- Applying R.I.C.E. (Rest, Ice, Compression, Elevation) is essential.
- Cold therapy should be applied as soon as possible to help to quickly stop any internal bleeding.
- Use a compression bandage or sleeve.
- See a sports injury professional who can advise on treatment and rehabilitation.
- Wear a heel pad or orthotics to raise the heel and shorten the calf muscle hence taking some of the strain off it. It is a good idea to put heel pads in both shoes or one leg will be longer than the other creating an imbalance and possibly leading to other injuries including back injuries.

What could a sports injury specialist do?

- Prescribe anti-inflammatory medication e.g. ibuprofen, which is beneficial in the first few days after the injury.
- Use ultrasound treatment.
- Use sports massage techniques after the initial acute phase.
- Prescribe a full rehabilitation programme.

Once the initial healing has taken place it is essential the lower leg is fully strengthened in order to reduce the likelihood that the injury will reoccur or have an adverse effect on future performances.

Training tips

Treadmill workouts

With the cold winds of winter soon upon us, resourceful runners will be eschewing the icy roads and bike paths by heading indoors to do their running on treadmills. They know that with a little creativity, a treadmill workout can be just as satisfying as an outdoor jaunt. But too many runners lose touch with their creative side as soon as they step onto that whirling black belt. To these runners we offer these alternatives to make things interesting:

The Trail Hike - The goal: to work a variety of muscle groups, or to train for a hilly hike. The workout: use the treadmill's pre-set programs or manually vary the incline while visualizing yourself on a tough section of the Grampians, Blue Mountains or anywhere else you would care to take yourself. If you're good, the whirring of the belt starts to sound like a babbling brook or the wind through the trees. Total time: 30-45 minutes.

The Academy Reward - The goal: to catch up on classic old movies while getting in a nice long training walk. The workout: training for a marathon? (Or do you just like a good movie marathon?). Dodge the cold winter winds by setting your treadmill for an easy 5-6 minutes per kilometre pace and popping in a good DVD like BUAC member favourites "Top Gun" or "Tango and Cash". Total time: 2 hours or more – excluding intermissions.

The Quick Step - The goal: to work on foot speed and to prevent boredom. The workout: A quick, efficient cadence is the key to running velocity. Counts your steps for one minute, then don't count for two. If you fall below 120 strides per minute, pick up the pace. Total time: 45 minutes.

The One HD Fartlek - The goal: fartleks (Swedish for "speed play") are workouts that alternate very fast and slower-paced running for a great cardiovascular workout. The workout: If you like boxing, run at a very fast pace on your treadmill during each round of a boxing match, then slow down during the 1-minute breaks. If boxing isn't your thing, try football - go up and down every time the whistle blows. Soap opera fan? Up and down with every kiss, fight or gun shot. Total time: 47 minutes (or less if somebody loses an ear in the early rounds).

The Short Circuit - The goal: a mix of aerobic and strength training. The workout: run at a comfortable pace for five minutes, then step off and do 1 minute of circuit exercises. Cycle, crunches, push-ups, side-crunches, lunges and dips. Total time: 30 minutes.

Run Naked - The goal: the only way to go if you like your workouts rough, tough and in the buff. The workout: do we have to spell it out? Total time: as long as you can go before the neighbours start peeking in your windows.

Run to Support Your Eating Habit - The goal is weight loss. The workout: are those pig magnets on the refrigerator not working? Instead of useless deterrents, why not "punish" yourself with a fifteen minute trot on the treadmill every time you open the refrigerator door? Total time: 15 minutes (100–150 calories) per workout.

Pyramid (Of Pain) Scheme - The goal: a lung-searing "interval" session for maximum cardiovascular efficiency. The workout: after you do an easy 10-minute warm up, really work your legs by programming the treadmill to your 5k race speed for a "pyramid" of intervals of 1–2–3–4–5–4–3–2–1 minutes with 2-minute pace rests between each fast segment. Total time: 40–60 minutes.

A Hill of a Technique Workout - The goal: improving your running technique. The workout: running with the treadmill raised to a 3-5% grade is the best way for a runner to work on efficient running technique. The incline forces you to shorten your stride in the front and to push more from behind, and it's easy to watch for tall, erect posture using mirrors. Total time: 20 minutes.

The Nth Queenslander - The goal: planning on an equatorial run? This'll get you acclimated to even the nastiest of climates. The workout: simply roll a treadmill into your local health club's sauna, and let 'er rip. Total time: you won't last five minutes...

The Quad Blaster - The goal: great for developing quadriceps strength. The workout: if your treadmill's near a set of stairs, this one's for you. Alternate five minutes of treadmill running with five minutes of running up and down a flight of stairs. Total time: 30 minutes.

The Burke and Wills - The goal: to circumnavigate this wide brown land without leaving your treadmill. The workout: plot your daily mileage on a wall map of Australia, with push pins. Total time: Could take years...

Who's hot, and who's not

Who's hot.....

- Well done to Andy Buchanan for breaking the course record at the College Classic. He makes the rest of us look like we are walking. Lee McCullough is also in fine form.
- A welcome return for BUAC old boy Chris McCormack after a long lay off from running following an Achilles tendon rupture. He's the one with a limp.
- A welcome return to Jim Russell and Joanne Keely, and her son Bryan, whose father helped to start the BUAC over 25 years ago. Welcome back!
- Congratulations to Jenny and Alan Buchanan and John McGrath on their completion of the Paris marathon. The finishing times were a bit slower than their usual high standards, but reports indicate that congestion, and one too many croissants, being an issue. Keep an eye out for a race report in the next few issues of "Running on Empty".
- Well done to Dave "Taz" Tarrant on making the Athletics Bendigo Division One team for the recently run Athletics Victoria Lardner Park cross country race. Just reward for persistence.

Who's not.....

- Anyone involved with the Melbourne Storm or Richmond (the poor Tigers seem to be a permanent fixture in the "Who's not" section).

Media watch



Steve Hams running around some type of tram, and cutting off young Noah Walsh in the process (hard to spot, but he's there nipping away at Steve's left hip). Shame on you Steve!



Hello ladies! In his first (and definitely not his last) appearance for 2010, Media watch regular Tracey Wilson looking quite dapper.

STRENGTH AND CONDITIONING CLINIC

Date & Time: Sunday 30th May @ 11am – 3pm

VENUE: La Trobe University Athletics Complex,
Retreat Road Flora Hill - Bendigo



**Athletics
Bendigo**

Vasily's clinic will involve theory and practice of Strength and Conditioning, but this time focused just on this area, it will also include other VERY important components for general health: nutrition – combination of foods; how food products can be used for recovery (after sickness or physical load) and for increased general energy level; breathing – he will demonstrate breathing exercises to improve concentration, relaxation and optimise oxygen consumption; as well as movement – exercise to balance the strength of the body. These components are vital for general health as well as the development of high performance. This clinic can be useful and interesting for any sport - Coaches and Athletes; PE Teachers, Health Workers, and other Professionals. As the topics covered are for general health and wellbeing, this clinic will also be suitable for non-sports people, so long as they fit the criteria of having a strong personal interest in health and long term physical activity.

PROFILE: Vasily Grishchenkov - Level 5 - Coach / Strength & Conditioning

- Vasily has been involved in High performance athletes at an international level as both an athlete and coach for the past 35 years.
- As an athlete he was a USSR National record holder in Triple Jump (17.55). In 1983 he was ranked #1 in the world, and was twice the Silver medallist. Of European Championship
- He remained in the top 10 world rankings for 6 years.
- As a Coach, Vasily has prepared athletes for the USSR, Russia and Australia teams.
- His athletes have competed in 4 Olympic Games, 6 World Championships, 3 World Cups, Commonwealth Games and numerous International Grand Prix
- During the past 8 years, his athletes have received more than 60 medals from National Championships; set up 4 national junior records and have represented Australia internationally more than 40 times.
- He is a level 5 coach and also works as a lecturer and educator around Australia.

Vasily has prepared the following Australian athletes:

- **Tatiana Grogorevia** – Silver Medal at the 2000 Sydney Olympic Games;
- **Victor Chistyakov** – Sydney Olympic Games placed 5th;
- **Alwyn Jones** - Three times Australian Triple Jump Champion; In 2006 Commonwealth Games Bronze Medallist; participant of World Championships and World University Game.
- **Henry Frayne:** Australian Junior Triple Jump record holder; 5th in World Junior Championships; 2009 - Participant in World University Games
- **Linda Allen** – 2009 Australian Champion in Triple Jump
- **Meggan O'Reilly** – 2010 Australian Champion in Triple Jump
-

COST: \$30 – Athlete, Coach or Observers // \$50 - Family

NOTE *Please Bring 2 Beach Towels or yoga mat and towel for exercises, and wear suitable loose attire. Also since the clinic starts at 11am it would be advisable not to have a big breakfast.*

Light Refreshments Offered: Please bring your own water bottle. For adequate catering verification of numbers would be appreciated.

All Potential Participants: Please email your reply to: lees.judy@hotmail.com OR Mobile: 0427 401 080
jones.jennifer@bssc.edu OR Mobile:

0410 448 245

Internet stuff

Visit “www.bendigouni.com” for all of your BUAC news, and join “Bendigo University Athletics Club - Uni Pride!” if you are a Facebook user. It’s better than listening to the wireless!

Race day contacts

| | | |
|-----------------|--------------|-----------|
| Club president: | Jenny Jones | 5441 3305 |
| Vice president: | Ben McDermid | 5441 3442 |
| Secretary: | Pat Kenny | 5442 3431 |
| Treasurer: | Shane Rushan | 5442 7343 |
| Handicapper: | Brad Russell | 5443 9378 |

Feel free to make suggestions, or to submit information and pictures, to help fill these pages. Contact the editor, Pat Kenny by email on mpken1@bigpond.com with any information (preferably true).