

the **MEDALIST**

sport, science, knowledge



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December 2011



Leading minds to London

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from the CEO'S OFFICE



Another year draws to a close and in looking back over the year I can honestly say that it has certainly been the best year ever as far as results are concerned for the young up and coming stars in our academies on the various sporting arenas around the world.

During the year we had 3 of our learners who received their Protea colours, while 36 of the learners were awarded their junior national colours and a total of 77 learners were awarded either their senior or junior provincial colours. Add to this that as we approach the end of the year, the only South Africans who have qualified for the Olympic Games in London next year are two boats from rowing, canoeist Bridgette Hartley and the National Women's Soccer team Banyana Banyana. We are proud that 9 of the players in the Banyana Banyana team have been through the long term athlete development programme at the hpc and both Bridgette Hartley and South African Rowing are supported by the hpc with the national rowing squad basing themselves at the hpc for the past number of years. A number of our swimmers and athletes have already achieved qualifying times this year, but they have to officially qualify next year closer to the Olympic Games. We are confident that a number of them will qualify for the Games and one or two of them stand an outstanding chance of medalling.

A number of International athletics and swimming teams have already booked to come to the hpc for training camps building up to the Games, testimony to the fact that the University of Pretoria has world class training facilities and is seen as the venue of choice for a number of potential medallists at the Olympic Games. Our young up and coming superstars in the respective academies will thus be able to rub shoulders with

a number of the worlds' best performers and will hopefully learn something from their training regime and disciplined approach.

Next year, 2012, is an historic year in the life of the hpc with the celebrating of our 10th Anniversary. A number of events are planned for the year including an International seminar/conference, a prestigious sports banquet and finally culminating with an international sports event between our TuksSport High School and schools of similar ilk from around the world 🏆

Toby Sutcliffe

Mental Toughness

Text: Wayne Goldsmith

There have been many attempts to define and measure mental toughness in coaching textbooks, academic literature and even in the popular media.

Words like “persistence”, “perseverance”, “determination”, “commitment”, “resilience” and “uncompromising” seem to be used to describe mental toughness: something which clearly means different things to different people. For some people, mental toughness is about being able to maintain composure, calm and control in difficult situations. For others, mental toughness is related to physical **“hardness”** and the ability to endure pain, fatigue and stress in competition conditions and still prevail.

There has been a lot of work from the academic sector to attempt to define and measure mental toughness, with most of the recent literature discussing mental toughness in terms of “situations” and that mental toughness is a complex set of different attributes expressed differently by people in different situations. Coaches all agree however, that for competitive athletes, mental toughness is a highly desirable athletic quality: one which is as prized as outstanding physical abilities, excellence in skills and technical knowledge.

But how can you coach an athlete to be mentally tough?

Mental Toughness:

Two Basic Coaching Approaches

There are two basic approaches to coaching mental toughness:

1. Toughen the body to toughen the mind and
2. Toughen the mind to toughen the body.

“All of us get knocked down, but it’s resiliency that really matters. All of us do well when things are going well, but the thing that distinguishes athletes is the ability to do well in times of great stress, urgency and pressure.”
Roger Staubach

Mental Toughness Coaching Approach

1 Toughen the body to toughen the mind

This has been the most commonly used approach by coaches to try and develop mental toughness in their athletes. The essence of this approach is hard work, i.e. the harder I work, the tougher I get.



The core philosophy behind this approach is:
"Make training more challenging and more demanding, physically and mentally, than the competition you are preparing for".

This approach has several good things going for it and it is relatively simple to do. Through this approach, athletes develop confidence in their ability to meet the physical demands of the competition environment and in their ability to

deal with whatever is "thrown" at them during competition because they **know** (i.e. confidence comes from knowing) that their preparation has been better in every detail than that of their opposition.

Many, many football competitions, world championships and Olympic Gold medals have been won by coaches and athletes adopting the toughen the body to toughen the mind approach.



However, for some athletes this approach can be too confronting, too demanding and ultimately can actually cause athletes to become demotivated and even intimidated by the training environment. Some athletes will fall to the stress and strain of the intense physical loads required by this approach and break down through over-training.

A big mistake however that coaches make is to assume that athletes who fail to respond to this approach are “soft” and therefore unable to compete successfully. **The fact is that all athletes (people) are different.** Some respond incredibly well to endurance training... some don't. Some respond positively to strength training...some don't. Some respond strongly to the toughen the body to toughen the mind approach...some don't.

Mental Toughness Coaching Approach

2 Toughen the mind to toughen the body

The second approach to Coaching Mental Toughness is the toughen the mind to toughen the body approach. Coaches who adopt this approach focus on developing the athlete's mental skills and teaching them the psychological techniques to thrive in the competitive environment.

There are many excellent mental skills techniques which can enhance an athlete's ability to perform to their full potential under the pressure of competition including Sports Mindfulness which among other things teaches athletes to live in the moment and to not overly think about the past (e.g. mistakes which may have just been made) or the future (e.g. the pressure of the situation and the need to score points).

An athlete who masters a technique like Sports Mindfulness can be, by any definition, mentally tough, as they have the ability to perform to their full potential regardless of the situation.

So which approach is the right approach?

The right approach is:

- The one which suits your own personal coaching philosophy; and
- The one which works with the individual athlete you are coaching.

There is no one size fits all coaching method to enhance mental toughness. Some athletes respond well to Mental Toughness Coaching Approach 1. They thrive on hard work. They love being physically challenged. They grow and mature as athletes through an uncompromising commitment to training as hard as possible. And some athletes do not respond to this approach. Others respond far better by learning to master their mind and to tap into the almost unlimited potential that lives between their ears!

"Win or lose you will never regret working hard, making sacrifices, being disciplined or focusing too much. Success is measured by what we have done to prepare for competition."
John Smith

And the biggest question of all....can you turn a “soft” athlete into a “hard” athlete through great coaching?

The short answer is **Yes.**

A “soft” athlete is one who lacks the mental abilities to compete to their full potential – particularly when things get difficult, challenging or unpredictable. Coaches, believing they can identify “soft” athletes then embark on a training program to help the athlete develop the skills and abilities to better manage competitive situations and therein become “hard”, i.e. tough, resilient etc.

Some athletes are naturally hard: and by naturally, I mean they have learnt to be hard

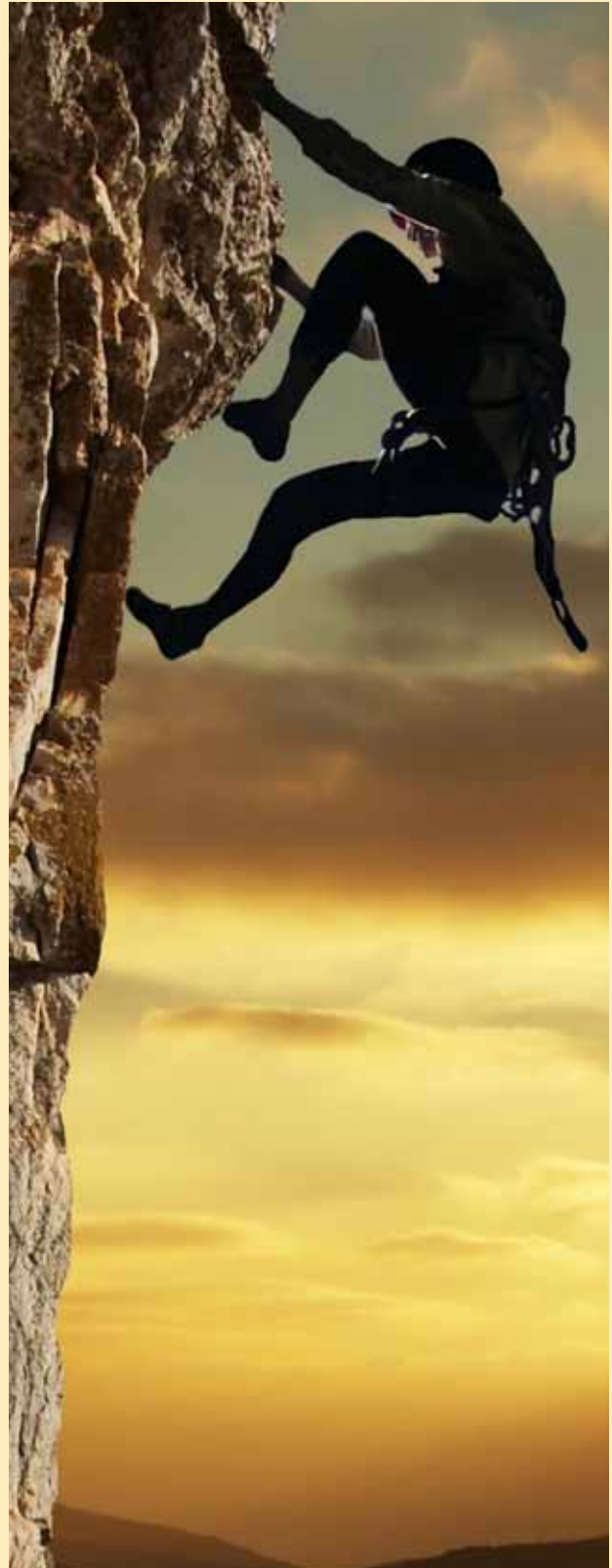
through necessity, overcoming adversity and setbacks in their lives both inside and outside of sport. They then carry this “hardness” into their preparation and performance, i.e. *“the way you do anything, is the way you do everything”*. For others, “hardness” (mental toughness) is a skill and like any skill it can be learnt, practiced, enhanced and mastered. In the same way you would not teach an athlete complex, difficult, advanced sporting skills and techniques in their first year of training, mental toughness is not something that athletes learn from a single lecture, sporting autobiography or audio recording. Mental toughness needs to be introduced, nurtured, developed and enhanced and systematically measured in both training and in competition situations over an athlete’s career just as any other sporting skill or technique.

“I’ve never known anybody to achieve anything without overcoming adversity.”
Lou Holtz

Summary

Mental toughness is a much talked about, much investigated aspect of sports performance yet surprisingly, while many people believe they know what it is, where it is and how to find it, very little is understood about coaching it. Whether you adopt the “body to mind” approach or the “mind to body” approach, coaching mental toughness is about understanding your athlete and what they need to enhance their mental abilities to thrive in competitive situations. There are times when both approaches can be used effectively in the preparation of athletes. Coaching is an art form: and an important part of the art is knowing what to do, when and how.

“It may sound strange, but many champions are made champions by setbacks.”
Bob Richards





Lee-Ann with Naydene Smith and coach Dustin Butler

Practise makes Persse

Text: Carla Venter (Beeld) Images: Reg Caldecott and Lee-Ann's own collection

The young woman's green eyes are shining, although she has done more than six hours of intense training today.

Lee-Ann Persse is one of South Africa's Olympic hopefuls – and she's a Tukkie.

Lee-Ann is a rower and when she talks about the sport it is obvious that it's her passion. With a hectic training schedule, seven days a week, you have to be passionate.

This pair rower started out in the sport at age 16 and hasn't stopped since. "I love rowing. Sure, some days are more difficult than others, but I know what I want to achieve and I know I have to work extremely hard to get there," says the 23 year old Sport Science student.

She was born and raised in the coastal city of

Somerset West where, according to Lee-Ann, her mom, Sandy, never missed a race. "My family hasn't seen me race in almost two years. I think that's one of the most difficult challenges to face because they're my biggest fans," she says.

After Matric she went to the prestigious Boston University in the United States where she joined the rowing squad. "It was incredible to be part of a rowing culture like that. We competed against Harvard and all the other big league schools but I just didn't feel at home". She explains rowing isn't as big in South Africa as in other countries, but the coaching staff and the athletes are committed. "We are right up there with the world's best when you look at our training schedule and the results we achieve".

Her pair partner, Naydene Smith, plays a big roll in Lee-Ann's motivating. "She's an extrovert and I'm an introvert so the dynamics of our boat just work. Sometimes she talks too much or I don't



talk enough but in the end we balance it out.” The pair won a silver medal at the second World Cup in Hamburg this year and in the third World Cup they came sixth. “Yesterday, when, Naydene and I, went for an early morning jog, I truly didn’t feel like getting up. My body was sore from the training the day before but I knew she was waiting for me and that always pushes me,” she says.

Her biggest dream? “To win the Olympic gold but more importantly then that, I want to keep on rowing even if I’ve been to the Olympics. I want to be old and grey and still rowing,” she says with conviction.

She fiddles with her tanned hands as she explains why she loves Tuks. “Sometimes, I need to escape from rowing and that’s where student life comes in,” she adds. She was nominated for Tuks Sport Woman of the year 2011 and intends to win more medals for her university.

She has the stance of an athlete and says that confidence is one of the main ingredients of her success. This, and her South African coach, Roger Barrow. “He knows how to

motivate me. He’s technical and pin points problems.” According to Roger she is extremely dedicated. “She focuses on the small things and is always prepared to do the hard work. She is a physiological specimen and she handles competition well,” he says.

A big smile is spread across her face and her skin has traces of the sun. She looks healthy, she looks happy.

Aren’t you tired? “Nope, there’s no time to be. Tomorrow morning I have training at seven” 🇷🇺



Talented Aronstam

Text: Lester Mills Image: Reg Caldecott

If you've followed Titans cricket for the past decade, the name of Maurice Aronstam must surely have crossed your path, be it on a franchise, provincial or club level. This as a player coach and even a qualified psychologist, specializing in sports.

An all-rounder who simply cannot be ignored, Aronstam has scored runs and taken wickets on a regular basis at every level he has played and at present continues to do so for the Tuks first team competing in the Northern Premier League. At 30, Aronstam's performances remain top notch and it's no secret that thanks to his guidance, Tuks remain unbeaten in the league in defence of their title they won last year. So on the face of it, it's all about cricket for the talented Aronstam.

Well, just as his cricket talent is extra-ordinary, so too is his outlook on life. An outlook which has seen him also serving as a psychologist at the University of Pretoria High Performance Centre (hpc) before taking up a contract with Tuks Cricket this year as the teams assistant coach, club captain and first team captain. Certainly one would think that a player of Aronstam's ability would indeed have the cricketing world at his feet.

While at high school (Pretoria Boys High School), he climbed the ladder typical of someone on his way to the very top of the sport. First team cricket with a Batsman of the Year award on top of it, at representing Northern at various age groups from u/17 to u/19 level. After school it was into the Northern Colts team and then the Pretoria High School Old Boys team at Premier League club level.

While fighting for a regular place in the Titans franchise, Aronstam also had a stint at the Moorside Cricket Club in England as that clubs overseas professional. It was somewhere around this time that Aronstam faced down a conquered a searching test every sportsman comes up against in his career at sometime or another.

Would continuing on his present path bring him ultimate success or would he need to make a drastic career change?

So it turned out then, in 2006 he opted to balance his cricket career a player and coach with some serious study. It started with a degree in psychology and Communication Science from Unisa and is not over yet with him now completing his PhD Psychology at Tuks. Clearly though, cricket still remains his first love, with the job offer at Tuks Cricket this year just too good to turn down. It's no doubt a decision Tuks themselves are thankful for.

On a personal level, Aronstam has now put to bed any dreams of again representing the Titans which is by no means an admission of failure but rather an acknowledgement that his talents will no doubt be better served elsewhere. "I have to admit I'm kinda living the dream at the moment. I spend most of my time involved with cricket at Tuks but also have a 20 hour a week contract with the University of Pretoria High Performance Centre as a psychologist. Indeed, for me it's the best of both worlds.

Aronstam is also of the firm opinion that the abundance of talent of sporting talent at Tuks will easily keep them a leading institution in their field in the country for the foreseeable future. What of his future plans? Well even for a dedicated cricket jock, he does admit that he can certainly not play the game at top level indefinitely but does say he would like to play club cricket in the region for some years to come. Married to Karen for four years now, there is also some other settling down that has to be done with psychology, particularly on the sporting front though set to play a huge role in his career going forward.

First things first though, and that's to see Tuks again grab the Premier League title this season 🏏



Jumping for Joy

Text: Rick de Villiers Images: Reg Caldecott



The Medalist caught up with Albert Janki, the world's no. 2 youth triple jumper, to find out about the moment it all came together.

Google the name Albert Janki and follow the first video link. You'll see a tall, sinewy 17-year old kitted out in the South African green-and-gold on the verge of doing something special.

Preparing for his final attempt in the triple jump at the IAAF World Youth Championships, he doesn't warm up the crowd like other jumpers. He fixes his gaze on his feet, rocks on his heels and sets off. Then, cutting into the breathless silence of the onlookers, there are three leaps and hardly a splash of sand.

All sorts of excitement follow: Albert has shattered his previous personal best (15.50m) with a jump of 15.95m, moved into the silver medal position and given the commentator cause to spill his tea.

'I couldn't believe it, and yet I knew I was going to pull it off,' Albert says, reflecting on that moment. 'My coach was screaming with joy, the spectators were going wild, but I was stunned. It took a long time to sink in.'

In a year that's delivered nothing but brilliant results, Albert should be getting used to the surreal feeling of success. In March he claimed silver at the SA Schools Championships in Paarl, April brought gold at the ASA Youth and Junior Champs, and the same feat was repeated at the Southern Region Champs in Namibia just one

month later. These results were a prelude to his achievement the IAAF World Championships in Lille, France, during July. Since that now-famous and much YouTubed jump, the world's second best youth triple jumper also represented South Africa at the Commonwealth Youth Games in the Isle of Man where he scored Gold.

But in between breaking records and globe-trotting, Albert still has to find time for schoolwork. 'I have to admit that it's difficult getting back into the zone for school after big events. You are so distracted by all the things you see in other countries that you completely forget about the books. Luckily I've got my teachers to keep me in line.'

Albert only came to the TuksSport High School in 2010. He moved, not from Welkom (as he adamantly will inform you), but from a small township just outside Welkom called Kutlwanong. He's had to give up his promising, albeit brief, rugby career and only gets to play soccer with his mates during school holidays. But choosing triple jump over all else didn't take much thinking. 'There's nothing like it. I was born to do it.'

Now, having announced himself as a serious competitor on the world stage, Albert has set his sights on Olympic glory. He might not be quite ready for London, but he is headed towards 2016 with one goal in mind, and it rhymes with bold 🏆



LEGEND



The Wicksell family.
From left is Stephanie, Ray, Eugenie and Ilse with Zoe the family dog

the Wicksell Family

Text: Carla Venter (Beeld) Images: The Wicksell's own collection

The Wicksell's family home in Pretoria is adorned with family portraits and photos of their sporting victories. All four members of this family have international colours in athletics but first and foremost they're a happy family.

Ilse Wicksell (né De Kock, 52) sits barefoot in their sitting room with her husband, Ray (54) and two daughters, Stephanie (17) and Eugenie (22). At the age of 24 Ilse became the first South African woman athlete to run the 800m in less than two minutes, and only four South African women have done it since. Ray, on the other hand, was a United States athlete and is one of few in the world that ran a sub four minute mile. "I did it in 1979 at Stanford University at the Martin Luther King Games. I ran 3:59:77 which not only broke four minutes but won the race too. I ran like a rabbit that day. With that psychological barrier gone I went on to break it 24 times," he says.

With athletics running through their veins it is no wonder that Stephanie and Eugenie have South African colors in this sport. According to Eugenie, who has a degree in physiology from Tuks, her parents never put pressure on her or her sister to do athletics. "We did all kind of sport. In the end I knew that my true talent lies in athletics and that is my focus now," she says. "In 2008 I was diagnosed with glandular cancer. For more than a year I couldn't practice but I started again and my long term goal is to go to the 2016 Olympic Games," she says. Her younger sister Stephanie is a scholar at Hoërskool Menlopark and says the highlight of her life, so far, was going to the World Youth Championship in France earlier this year. "It didn't go well but now I know what to expect and I would love to go the 2016 Olympics with my sister," Stephanie says.

Both Ilse and Ray had setbacks in their careers. In 1984, a year after Ilse broke the two minute mark; she was hit by a diskus while practicing. "I only started running again six years later but after that I went on to win the gold in the

800m at the South African championship that year as well as the veteran games in 1995," she says. Ilse, like a lot of athletes from that era, never represented South Africa at an Olympic Games. "We were banned because of apartheid," she says. Considering she retired whilst at her prime, one wonders what heights she would have reached. In 1982 Ray got hit by a truck the same day he was supposed to leave for an athletics event. "I ripped my ligaments in my leg and knee but I am strong minded and I started again as soon as I could," he says.

Ilse smiles when you ask her what her highlight in life has been thus far. "People expect me to say the day I broke the two minute mark. To tell you the truth it is my family. My girls are my highlight," the proud mother says. For Ray it is more or less the same. "I will always remember the day I broke the elusive four minute barrier but we are blessed to have a healthy family. It is an added bonus that our daughters are good in athletics," he says.

Both mother and daughters have a strong Afrikaans accent and the family playfully teases each other about this. "My dad can understand Afrikaans but he's just too lazy to talk it," Eugenie says. With a wry smile dad agrees. "I'm still an American you know".

Ray is a motivational speaker and entrepreneur these days and says he loves the challenges the business world brings. Ilse is still involved in sport and from 2012 will be working in the Sport Department of the University of Pretoria. "I'll be doing event management," she says. According to Ilse she is still involved in coaching, especially at Stephanie's school. "Athletics is a part of me and I will always be involved in it," she says. Kitted out in the newest of Nike gear the family's smiles are bright, as Zoe their sheep dog, also poses for the family photograph. In the case of the Wicksell's the saying, the apple ('s) doesn't fall far from the tree, certainly applies 🍏

Text: Shona Hendricks

“You kick like a girl!”

What used to be an insult has now be transformed into a compliment and the phrase “you kick like a girl” is perhaps more apt as “you wish you could kick like a girl!”

Women’s football is becoming more and more popular around the world with many countries boasting professional leagues and coverage for the game. Sepp Blatter has even been quoted as saying “The future of football is feminine”. And where FIFA have done a lot to promote the Women’s game South Africa is not far behind with our National Ladies Football team, affectionately known as Banyana Banyana, set to make their debut appearance at the Olympic Games in London 2012.

Banyana Banyana has grown in leaps and bounds in the recent past. Since first being assembled as a national squad in 1993 the team has improved their ranking from outside the top 100 to 67th in the world, with their peak in 2010 at 56th, and they are currently ranked 5th in Africa*. The introduction of SASOL as their first-ever sponsor has been a major influence in Banyana’s positive results as of late.

After narrowly missing out on a spot at this year’s Women’s World Cup when they finished 3rd at the African Women’s Championship (AWC) held in South Africa in October 2010, the team set their sights and hearts on the Olympics in London 2012. This would be the first time Banyana Banyana would represent South Africa at the Olympic Games – so with that in mind and the lessons learnt from AWC in 2010, the ladies were determined to make it happen.

The squad regrouped in early January 2011 for the start of their qualifications for London 2012 – first up was an away and home match against Zambia. Playing away from home is never easy and even through all the tribulations the team faced while in Zambia, Banyana showed so much composure in their 2-1 win over the home team. Two weeks later, Banyana were clinical, beating Zambia 3-0 at home (agg.5-1) progressing to the next round in style.

Head-coach Joseph Mkhonza’s usual experienced squad, with the likes of Amanda Dlamini, Janine “Booth” Van Wyk and US-based Kylie-Ann Louw, received an injection of flair by bringing in new young players, including hpc’s very own Robyn Moodaly and Rachel Sebati. Robyn made her debut in January against Zambia and is now a regular in the squad and at only 17 years old is really making her mark in the national team with one goal from only 10 caps. Rachel is only 18 years old and has played for the national team 3 times so far.

With Zambia out of the way next up was Tunisia. At home, Banyana beat the Tunisians 1-0, however away they lost 1-0. This meant the aggregate was 1-1 and with a goal-less extra time, the match was left to penalties which Banyana won 5-4.

The last round was to be against Ethiopia, beating Ethiopia would equal qualification for London. At this point CAF (Confederation de Afrique Football) had scheduled Banyana to play Ethiopia and All Africa Games at the same time. SAFA requested the match to be re-scheduled but to no avail. This meant that a full strength squad was sent to All Africa Games as well as the qualification match against Ethiopia, showing the depth of players we are starting to grow in the South African environment. Banyana confidently dispatched their Ethiopian counterparts 3-0 at Orlando Stadium. Ethiopia would have to score 4 goals against our ladies at home and hope that Banyana did not score any away goals. London was looking like more of a reality than a dream. And when Russian-based Nompumelelo Nyandeni scored in the second half securing a 1-1 draw in the away leg (agg. 4-1) the dream was a reality!

SAFA President Kirsten Nematandani was at the airport to welcome the victorious team home with the following statement: *“On behalf of the entire SAFA executive, I would like to say to coach Joseph Mkhonza, his technical staff and the brave Banyana Banyana soldiers that you have done your country proud and let us now prepare for the Games in earnest and show the world that South African football has really come of age.”*

Other women’s teams who have also qualified for LONDON 2012 are Great Britain, Japan (current World Cup champions), North Korea, Brazil, Colombia, France and Sweden all of which, excluding Colombia, are in the top 10* in the world. Therefore our ladies are going to have to be at their absolute peak to compete amongst the best in the world. SAFA has expressed that they will do all they can to ensure that Banyana perform well at the Games and are not there as “tourists”. The 2nd representative from Africa will be Cameroon after they beat top-ranked Nigeria on penalties. Cameroon is ranked just one spot ahead of Banyana at 66th.*

Having been involved with Banyana Banyana, I can say with certainty that this team plays with supreme passion and desire. And that every time those ladies walk out onto the field with the Protea emblem on their shirts, they do it with honour and intent to make their country proud. I wish them all the best for their Olympic journey and urge everyone to get behind Banyana Banyana and Team South Africa in London 2012 🇿🇦

Banyana Banyana's Road to London 2012!



Part 4: Performance Termination

PUTTING SPORT PSYCHOLOGY IN CONTEXT

Text: Monja Human and Maurice Aronstam

Introduction

To thoughtfully and successfully implement an intervention in the context of sport psychology requires that the difficulties that an athlete experiences be identified and that the best intervention be used to assist the athlete. This often requires that the difficulties presented by an athlete seeking sport psychology services be categorised into the following four categories.

- I. Performance development
- II. Performance dysfunction
- III. Performance impairment
- IV. Performance termination

The interventions that will be best suited to the difficulties experienced by the athlete will differ according to the above categorisation. In part one performance development was addressed, in part two performance dysfunction was addressed, in part three performance impairment was addressed and now in part four we look at performance termination.

Part IV: Performance termination:

This category is characterised by an athlete that faces the end of their career through a serious injury or through retirement from the sport, for example, an athlete that decides to retire from the sport after suffering a severe injury and surgery to their ankle.

This termination of their sporting participation may come unexpectedly or it may be a calculated choice by the athlete. Either way the termination of participation can be regarded as a transition period in the life of the athlete. Things to consider in this transition period include cause of the termination, personal impact of the termination, personal resources available and in which direction will the athlete move after this transition.

Thought many athletes, especially when they retire from the sport on their own terms, go through their transition period relatively smoothly; there are often cases where difficulties are experienced.



Let's look at a more detailed example of a performance dysfunction case.

The Story of Rachel	
Here is an example of a hockey player to illustrate a typical performance dysfunction termination:	
The situation	The potential long term effects
Rachel is studying business management at university and because of her talents as a young hockey player is on a full sports bursary. She was captain of her first team at school and earned her provincial colours in her final year. Her parents are both working in retail, with her mother working in a cosmetics store and her father as car salesman.	Rachel was doing well and due to her sporting success at school was able to gain financial support for her studies.
Her first hockey season for her university went well and she received the best newcomer award at the end of season prize giving. She also did well at university where got two distinctions in her first year.	Her performances continued on the sports field and she strengthened her position to keep getting financial support for her studies.
During a training session early in her second season she went over her ankle and severely damaged her ankle ligaments. She received surgery but was advised by the doctors that she will not be able to play hockey again.	Her injury was sudden and due to the serious nature of the injury had a lasting impact on her future plans for her life.
Her bursary was not renewed for her third year and her parents could not afford to pay the tuition for her last year of studies. She grew increasingly worried about her future and her marks for her end of year exams dropped significantly. She feared that she will not be able to finish her studies and realise her dream of one day owning her own business.	Her plans for her future have been thrown off course and the uncertainty of her future placed a heavy emotional burden on her.

Rachel's career came to a halt due to an unexpected injury on the sports field. The sudden realisation after injuring her ankle that her entire future had been influenced by this injury had a drastic impact on her emotionally. Because of the unexpected nature of the termination from participation it is advisable to keep a lookout for symptoms that can be associated with a traumatic event. Despite her hockey being her financial means to build her preferred academic and professional career, she could also place great emphasis on her hockey as defining a large part of her identity. Now that the hockey is gone, she might start on the downward spiral of making negative and damaging identity claims.

Interventions in cases of performance termination often include the following:

- 1) Building a supportive base (often friends and family),
- 2) Promoting self-awareness and exploration,
- 3) Coming to terms with emotions and effects of the termination,
- 4) Planning for the future of the athlete.

Summary

To summarise, the performance termination category is characterised by an athlete that faces the end of their career through a serious injury or through retirement from the sport. Despite the sudden or calculated nature of the athletes' departure from the sport it can have emotional, personal, social, financial and career implications. Coming to terms with the effects of and thorough planning often allow athletes to make the transition from their active sporting lives to what may lay ahead of them 🌈

Debunking the Dogma!

*Text: Jimmy Clark
Institute for Sport Research, Department
Biokinetics, Sport & Leisure Sciences,
University of Pretoria*

I'm reminded daily in my sport science work of the adage about teaching old dogs new tricks. But many of the concepts to be shared in these 'Debunking...' columns are not new - they have simply not been correctly received, observed, comprehended or accepted yet by our resilient and resistant sporting family.

Frequently sport scientists are to blame. We typically have access to the most contemporary scientific published evidence and the academic background to interpret it. Filtering this information appropriately to coaches and athletes at the coalface, and proper interpretation of relevant training and competition data remain problematic. We forget that modern coaches are street smart, in touch with the recent real-world developments, and know their sport exceptionally well. Often they have a working knowledge of a concept years before sport science proves and publishes it in the typical peer-reviewed fashion. I could blame a host of issues for this (...and I will): the deficiency of scientific research designs which truly mimic real world high performance scenarios; the pursuit of independent, sometimes disparate objectives by coaches compared to sport scientists (...think 'Publish or Perish'); and the perennial challenges when researching real high level athletic population groups. If you and I have spoken about this before then you'll know my suggestion on curbing this trend - greater immersion by scientists within the world of the coach and athlete, working relationships that facilitate long-term engagement and ongoing dialogue.

Without this interaction, even seemingly basic concepts in sport become walled-up by isolated thinking and yield ideas and practices which are convoluted at best, downright false at worst. Scientists become far removed in their research and understanding of the real game, while coaches, out of grave need, press on with or without accurate interpretation. Here's one example.

Heart rate (HR) monitoring remains exalted as a gold standard in measuring exercise intensity or training load. The attraction is obvious - modern systems are generally affordable, easy to use and sufficiently reliable to attain an accurate recording of HR under many different conditions. In the century or so in which HR monitoring has been possible, the last two decades have seen

Part II: Heart Rate Monitoring



Myths and Misconceptions in Sport Science...

rapid development of more sophisticated systems allowing group monitoring, more detailed analysis of HR parameters and real-time wireless recording. Many athletes and coaches, mostly within endurance sports, use HR monitoring to implement the intensity at which they plan to exercise. While attempting to avoid an overly technical explanation of concepts, I'd like to clarify just three important fundamental concepts about HR and exercise. Feel free to contact me for a chat if you would like more detail, there is much more to add about the mechanisms behind these responses that we observe!

Besides its convenience of measurement, HR is used as a measure of exercise intensity because there is a linear relationship between plotted HR response and exercise intensity. I've included the obligatory textbook graph in support (Figure I). This is true, but a couple of important footnotes are frequently neglected.

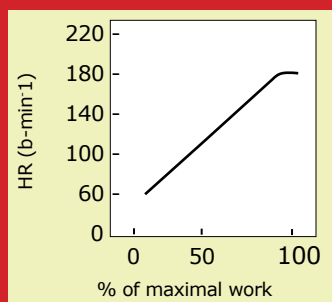


Figure I. Theoretical HR response plotted against varying intensities of exercise

First, this relationship is typically measured during an incremental exercise test in a laboratory. In other words, the HR for several different intensities is established from steady rate exercise for a few minutes at each separate work rate, and then plotted. Under the same test conditions each time, this is a useful way of comparing HR responses following periods of training, and therefore has value as an exercise test. However, using this data in the real world for exercise prescription poses some challenges. As I'm sure you know, training sessions and races, depending on their nature, are not completed incrementally

(gradual increasing intensity), are often much longer than a few minutes, or are not done at a steady rate. While HR response to exercise is often described as Figure II, the reality is that, at the intensities most athletes train around, the response is more similar to Figure III. I'm sure you can see some of the problems with establishing HR limits for various intensities of work. Regular monitoring of your athletes in various training sessions is needed to establish these profiles.

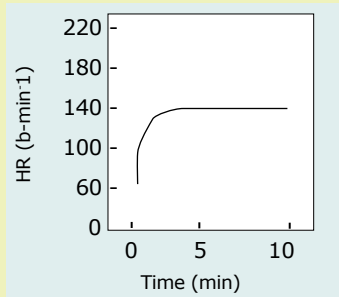


Figure II. Theoretical HR response to a single, steady bout of submaximal exercise

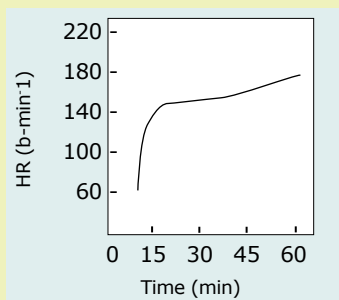


Figure III. Real-world HR response to a single, steady bout of submaximal exercise

Secondly, this relationship, i.e. the plotted line in Figure I, is highly individual specific. While all healthy humans show this pattern of higher HR response at higher exercise intensity, the actual HR number reached at various intensities is not universal, even at the same absolute or relative intensities of exercise (Figure IV).

Despite what you may have heard, the age of the individual alone does not account for most of the differences between people. For example, the standard estimation of maximum HR of 220 minus age can be up to 10-12 beats higher or lower than the correct maximum HR for an individual. In our rowing squad, the same relative workload (effort) produces a HR response which is frequently 30 beats per minute different between some athletes, so the individual nature (genetic, sex, age, body composition) of the HR response is large! This means that standard group prescriptions of HR numbers or pulse counts for training are not appropriate – you need to know the individual response. Monitoring HR as a percentage of maximum HR, or other methods, removes a lot of this problem, but individually measured maximum HR values must

be used (not age predicted values) and small individual differences still persist. Careful use of individual athlete test results must be used when using HR to guide exercise intensity.

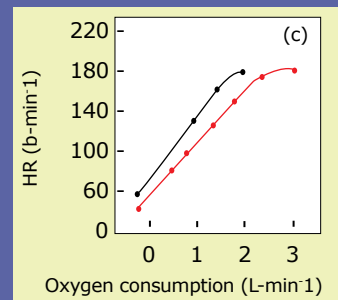


Figure IV. HR response of two athletes to the same exercise intensities


Thirdly, once you have established the typical responses of each individual athlete for various exercise intensities and types of training, it's important to consider the variety of factors which influence the measured HR response. Each of these has underlying physiological mechanisms which interact to produce the actual HR number seen, even if the same exercise session and intensity is being performed. For exercise testing we attempt to control as many of these as possible through pre-testing guidelines to keep test conditions the same each time, but often in different training scenarios this is not feasible. These factors include body position, time of day, various drugs, prior physical activity, sleep patterns, various forms of stress, environmental considerations like temperature and altitude, hydration, and nutrition. Finally, there is a standard daily variation in HR of around 2-4 beats per minute. In other words, simple biological variation from day to day means that you probably need to look for a difference of 5 beats per minute or more in most individuals to say that the HR response is actually different. The more data you gather on individual athletes' responses to exercise loads, the more accurate your assessments of HR response differences will become.

In summary, HR monitoring can be a useful additional method of monitoring athletes if the limitations of its use are appreciated. Without this, the monitoring process can become frustrating and counterproductive. HR monitoring is especially useful when standardized conditions and workloads are set to compare an individual's response to his/her own previous data. I'm sure we will revisit HR as a topic for discussion in the future - there are still many aspects to address. Until then, make sure you properly observe the data generated in training and competition.

Further Reading: Achten J, Jeukendrup AE. Heart rate monitoring: applications and limitations. *Sports Medicine* 2003, 33: 517-538.

The once and possible future way of running

Text: Ryan Hodierne, Performance analyst & technical footwear expert



Running is regarded the most natural form of motion for human beings. Humans (*homo sapiens*) were once the greatest endurance runners / hunters on earth. The springiness of our legs and our unrivaled ability to cool our bodies down by sweating rather than panting, enabled ancient humans to chase prey until it dropped to the ground from heat exhaustion. There is historical speculation that collaboration on such hunts led to the creation of a language and on to shared strategizing and tactics. The ancient human's ability to run naturally and effortlessly; effectively made the human race the "masters of the natural world".

In recent years the running world has experienced a paradigm shift in thought of correct and incorrect running techniques. Mostly poorer nations and very few individuals and tribes tucked away in far away places have been running the barefoot / minimalist way until now. The onset of this in the modern world was primarily brought on by the release of a best selling book by the name of "Born to Run" - by author Christopher McDougall, and the launch of the strange but interesting looking five-finger Vibram shoe.

Before we tackle the debate, let us classify you as a runner. There are namely three different types of foot strike patterns:

1. forefoot strike - the forefoot lands first, followed by the heels coming down
2. midfoot strike - characterized by the heel and the ball of the foot landing at the same time
3. heel strike - where the heel lands first followed by the forefoot.

Shod runners (a runner wearing shoes) are often characteristic heel-strike runners, this primarily being due to the thicker heel at the rear of the shoe that provides more cushioning for impact. Most running shoes have a standard heel to

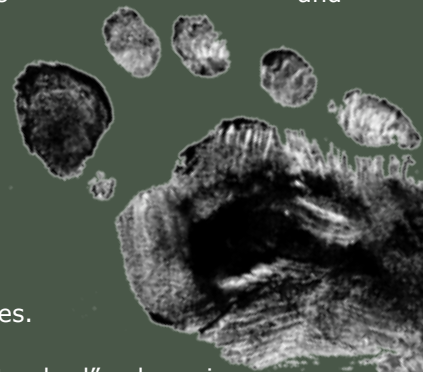
fore-foot drop of 12mm. Being unshod (without shoes), the heel to fore-foot drop is zero, which thus requires, or favours a mid to forefoot strike. The implication to this being, that if the unshod or minimalist runner were to continue his/her heel strike pattern as he/she would of in a normal shoe while running, the impact force experienced through the heel and into the rest of the lower limb will be equivalent to 2-3 times the runner's body weight.

Once we humans develop specific motor patterns, it is very difficult to unlearn them. The ideal foot strike for a minimalist/barefoot runner is on the mid-forefoot, making the most use out of the shock absorption of the foot arch. However, having previously run in very stable motion control shoes that promote a heel strike... if we assume the same foot strike pattern in a shoe with little to no support, all the pounding through the rigid, poor shock absorbing heel will transfer all the nastiness into the ankles, knees and hips, which may lead to chronic injury.

Running shoes – as we know them

In the 60's, track and distance athletes commonly ran in thin little shoes and very seldom got hurt. The turn from these skimpy little shoes came when a certain brand decided to increase the cushioning in a shoe, which led to shoes being sold as safety items as apposed to performance accessories. Through clever marketing, consumers were made to believe they would get hurt if they weren't wearing the right shoes. Further research then discovered the high impacts and irregular rear-foot / heel movement in these shoes, which led to the development of plush heel cushioning and wedged mid-soles.

Today, the "standard" shoe is composed of an insole, mid-sole, outer sole and a material upper. Depending on the characteristics of different shoes, the effects are various and range from alteration in the wearers balance and posture, the activity/stimulus of





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different muscles and the impact force when the shoe contacts the ground. Through extensive studies done within the military, none have ever shown that a specially prescribed running shoe does anything to reduce the risk of injury.

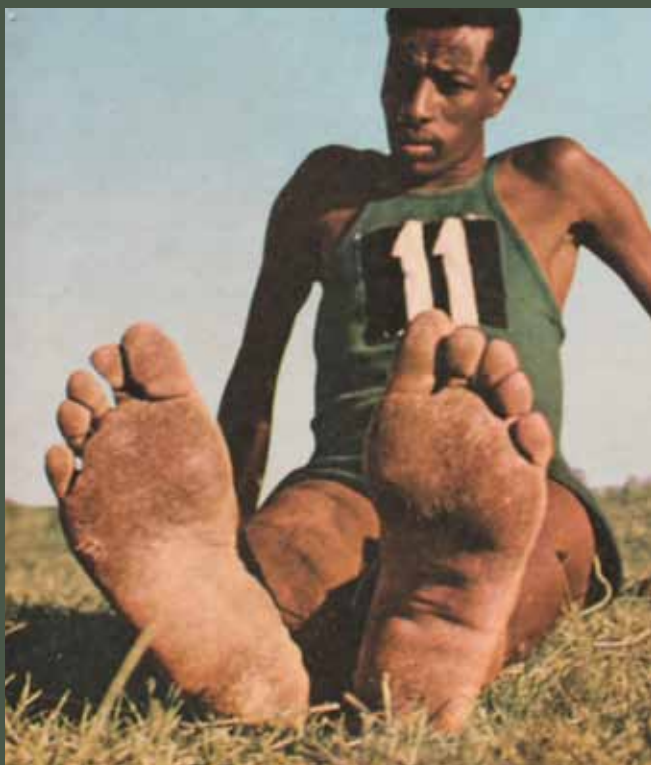
Born to Run - Christopher McDougall

Author Christopher suggests that "we don't need smarter shoes; we need smarter feet" The most interesting point Christopher poses within his best selling book, is that the supposed best way to run isn't about the footwear, but rather about correct running form. We should learn to run gently, and we could wear anything underfoot. But by failing to do so, no shoe or method of running will make a difference.

His exploits in his pursuit of the "ideal" way to run, led him deep into the valleys of Mexico's Copper Canyon to learn from the local Tarahumara Indian tribe. The Tarahumara are known to run 100 mile races into old age, and remain injury free using nothing but a piece of leather underfoot that is secured with a leather lace up the leg. Through his findings, he has created a following of barefoot enthusiasts who are singing his praise the world over.

Barefoot running & the minimalist shoe – the new craze?

Through corrective biomechanics in the motion of running, it is said that running unshod has diminished impact forces on the ground as apposed to shod running. With the minimalist way characterized by a 0 – 4mm heel to forefoot drop, it is indicated that a more natural stride is



encouraged by moving the runner off the heel.

It has been suggested that unshod runners are better able to take advantage of the elastic energy stored in the achilles tendon and in the arch of the foot and can thus minimize potential injury; this as apposed to the repetitive impact of the heel bone (calcaneus) due to heel striking, most often found in shod running.

Individuals who wish to approximate the experience of running barefoot, but would prefer some protection (recommended), can resort to shoes that mimic barefoot locomotion known as minimalist shoes.

A minimalist shoe is characterized by a flimsy look and feel with little to no heel cushion, no mid-sole or foot arch support. It basically constitutes a material (often seamless) upper, attached to an outsole.

Moving down the timeline a little, to where we are today, podiatrists world wide have recently suggested that there is an epidemic of stress fractures since the barefoot / minimalist movement came about. This has effectively led to a public health crisis within the usually conservative running world.

Only a small minority have managed to get away with an unshod approach to running or have transitioned effectively from the more common, structured motion control shoe. The following individuals have achieved success running barefoot, and amongst them include Olympic champions and world record holders, namely Abebe Bikila, Tegla Loroupe, and our own South African running phenomenon Zola Budd.

The biomechanics – consciousness is everything

Through research, barefoot and or minimalist running is found to have the following beneficial characteristics during propulsion and landing:

- the foot has more range of motion
- the engagement and traction effect of the toe is greater
- the feet are allowed to flex and spread naturally to grip the surface better

With this, it is said that there is less pronation of the foot due to the better distribution of pressure through foot contact.

In order to understand what structured motion control shoes have done to runners, and to understand the hypothesis that minimalist running reduces the risk of injury; studies were done on a group of Kenyans who never wear shoes, ever. Through analysis of their foot strike, running barefoot showed almost zero initial

impact shock, in comparison to the shod heel-strikers who collide with the ground with a force up to three times their body weight. Running with a prominent heel strike has been described as "having a tire with a nail in it", that injury (a puncture) was a surety.

Pro-barefoot aficionado's state the 4 keys to injury free running:

- 1) Balance – improved control and body awareness through motion.
- 2) Elasticity – utilizing the natural elastic characteristics of the muscles and tendons of the lower limb and foot.
- 3) Stability in mid-stance – good pelvic stability and knee position through the strides mid-stance in motion.
- 4) Cadence - adapting to a shorter stride with more ground contact for better control and sensory feedback from terrain.

Should or could you be running barefoot?

All of the above does generate a blurred view on the topic of barefoot, minimalist running vs shod running. I do however feel it will remain a blurred area as this approach to running is certainly not for everyone. Based on the lifestyles we lead through our every day lives of today, the movement to a minimalist approach to running is a process, and certainly not a change that can happen overnight. This change or transition will favour the more neutral runner who has consistently run and trained in a lightweight shoe and who has spent a good time barefoot around the house and elsewhere in growing up as well as everyday life.

The issue lies with the average man on the street of this day and age. The modern man spends more time in shoes, whether at work or at home and many of the shoes we wear have a raised heel and a reasonable amount of support. If we take the structured, motion control shoe into consideration, problems do arise when the provided protection turns into correction, and when marketing takes over for education. Once the fancy gimmicks take over and technique is forgotten about, one can expect up to 90% of all runners to become injured in some way or other.

If you consider your foot being placed in a plaster cast for a period of time and the feeling you experience when the cast is eventually removed. For the time the foot is in the cast with all its structural support, the muscles of the effective limb, degenerate and atrophy with time. It gives a sense of a very fragile limb that has lost all control and muscular support. So if we think to apply this to your foot being in a very structured,

motion control shoe most of each day... the same effect occurs, but obviously to a lesser extent. I hope that makes sense?

Getting back to the transition process from shod to unshod running; it is a timely one that requires patience in strengthening the feet and getting the musculature of the lower limb used to less structural support and more feedback from the terrain underfoot. The idea behind barefoot running is that you are or become far more aware of the terrain you are running on, where the foot provides continuous sensory information to the central nervous system through feedback which originates from the sensitive mechanoreceptors within the plantar surface of the foot. Wearing supportive shoes is seen to mask this response from to the nervous system, dulling out the feedback it requires from the surface you are running on.

Recommendations if your decision is to try the barefoot way, do so with a bit of protection underfoot so as to avoid unnecessary cuts from glass and pokes from sticks along your chosen path. Rocks do hurt and your feet will feel tender and bruised the first few times. The calf muscles, achilles and soleus will also feel stiffer than you can remember.

To close off with, it is vitally important to keep in mind that the long-term and actual health benefits of unshod or barefoot running are still not well understood and remain an area of active research.

Ultimately, the debate is not about barefoot/ minimalist vs. shoes. It is about learning to run gently with sound biomechanics and the awareness of terrain underfoot; if you master this, you could wear anything you please 🌈



PREVENTING A CRACK...

Text: Amy Bathgate - Biomechanics & Video Analysis, hpc

Removing a crack in the foundation is the best way to progress the strength of a structure – not simply by adding additional layers to the structure, but strengthening the foundation before the new construction starts.

Around 50% of runners get injured every year – and this statistic hasn't changed much in 30 years. So this means that despite obvious technological advances in running shoes and training programmes, not much has progressed. The thing about sport is that it's always much more than just shoes or a training programme. Every runner is a complex and intricate puzzle all on their own. Just to shed some light on this topic I'll explore a few avenues...

Of those runners that do get injured, approximately half of them will develop knee injuries. And ironically enough, the high incidence of knee injuries rarely has anything to do with the knee itself. It's not that simple. The knee is part of a kinetic chain that is greatly affected by the linked segments both above and below it – so the foot and ankle, and the lumbo-pelvic-hip complex. Various functional movements can be used to help predict knee injuries such as tendonopathies, patellofemoral pain, and even non-contact anterior cruciate ligament injuries. If, when performing a

basic movement such as a one leg squat or an overhead squat, there is an inability to maintain the dynamic integrity of the knee (inward collapse/gravitation is often seen), this often highlights that the runner lacks the strength and/or stability to control their knee. This lack of control most often stems from a lack in pelvic stability and the muscles around the hip area. If they cannot control their own body weight during slow controlled movements like squats, the likelihood of injury when running or being more explosive is high.

Have you ever thought of human movement as a puzzle? Imagine puzzle pieces scattered across a table. Now, imagine a completed puzzle. This helps athletes understand terms such as human movement, function and dysfunction. Human movement consists of numerous sub-systems (puzzle pieces) to create performance (completed puzzle). If one of the puzzle pieces (sub-systems) is misplaced then the puzzle is incomplete (dysfunction).

The main stabilizer of the leg when an athlete is just standing is the gluteus medius. When they run, they're essentially landing and balancing on one leg hundreds, even thousands of times in a row. If this hip stabilizing muscle is not strong enough, it will not be a good stabilizer, leaving the athlete at a high risk for injury because of the lack



Some examples of poor or dysfunctional functional movement patterns with obvious compensations, which are tell-tale indications of functional focus areas or foundation cracks





of stability extended to the knee in particular. Once the movement of the knee becomes compensatory, many structures throughout the body are placed in compromising positions. Athletes run the way they do because they are weak in certain areas, stronger in others, inflexible in some spots and more flexible in others. Moreover, the way they're built plays a big role in how they run. It's not really about just changing their biomechanics to improve their running and thereby reducing their chance of injury, it's much more of a puzzle. The athlete may need to get a little stronger in one area and more flexible in another. Once this happens, the biomechanics will naturally change and they will once again run pain-free.

It's like a car having poor wheel alignment and/or balancing. As you drive you may feel a bit of a pull or shudder, but are essentially unaware of the uneven wear on the tyres, bearings, joints, etc. In running you wear down in the same way and don't notice until you develop pain or get injured.

Pinpointing what is out of synch and possibly increasing injury risks takes an experienced eye and the right tools, and is often difficult to do in the mirror or alone. The functional movement analysis (FMA) fills this need and sees athletes perform common athletic movements that are then evaluated on the quality of execution. Symmetry is

examined (both sides of the body should be equally strong with equal ranges of motion) as well as functional limitations caused by musculoskeletal weakness, strength imbalances and lack of mobility. The less quality of movement seen in the FMA, the more potential there is for injury, even if no pain is present.

Numerous researchers (especially based on football – a predominantly lower body sport) have shown that athletes who perform poorly in the FMA are significantly more predisposed to injury. And due to subconscious compensatory movement patterns they often cause microtrauma within the musculoskeletal system. The effects of this repetitive microtrauma include overuse injuries which are most often initially ignored as the athlete is able to work through them despite their symptoms. This often then develops into more intense pain and serious injury. Although a history of previous injury is usually considered a strong predictor of future injury, it is possible that a significant emphasis on lower extremity strength and neuromuscular control can be employed in the rehabilitation of subjects post injury, and that such training may have a positive impact on their FMA results. So start at the bottom and work upwards; the better the foundation in place, the more potential for maximizing strengths and minimizing injury risks 🏆



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Biomechanical

Links functional movement patterns to technique performances and bridges the gap in understanding, rehabilitating and preventing injuries

Gait

Slow motion filming links patterns in our gait to pain, injuries, and related conditions which might restrict an athletes walking comfort or running potential



Performance

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For more information contact Amy Bathgate: amy@hpc.co.za or 012 362 9800



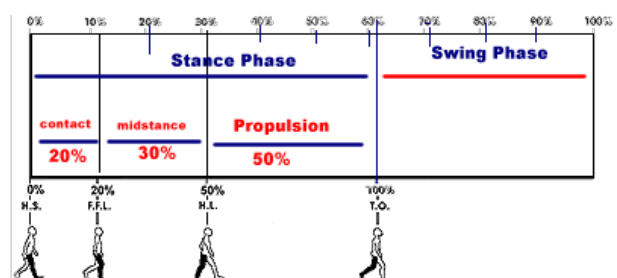
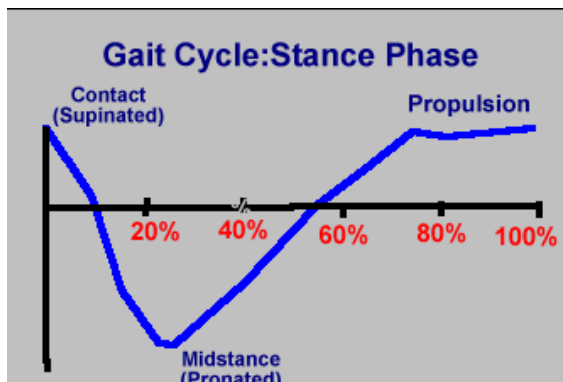
Training with different gaits

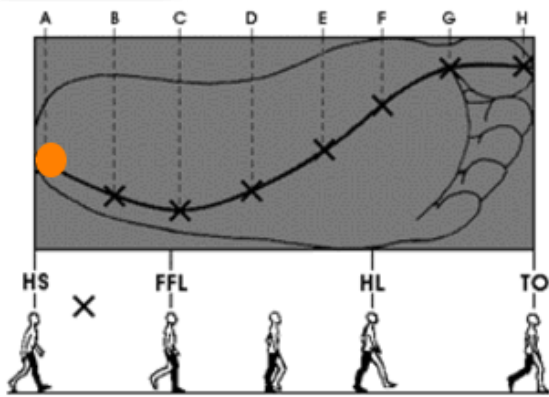
Text: Wayne Coldman

“Improving running mechanics is the single best thing athletes can do to improve their game in almost every sport played on land” Vern Gambetta

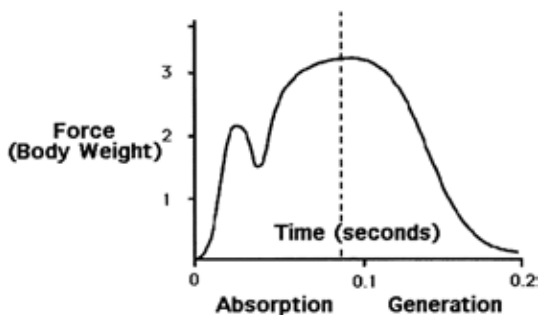
When people talk about training with different gait speeds, it is first important to understand why we do a Gait Analysis on athletes and more importantly, how to interpret the results and apply it. The Gait is broken up into 2 phases, the Stance Phase and the Swing Phase. The stance phase is the period of time during which the foot is in contact with the ground. The swing phase is the period of time in which the foot is off the ground and swinging forward. However, when we look at running, it has 3 phases, including a floating phase at the end. This is when both feet are off the ground.

The stance phase can be further broken down into 3 more sub phases namely the Contact sub phase, midstance sub phase and propulsion sub phase. Each of these has crucial aspects to pay attention to as to make sure we are correcting all aspects of the running technique. When we walk, we spent about 60% of the time in the stance phase however this changes to about 40% when running and only 22% in elite sprinters. A walker moving at a comfortable speed of 120 steps per minute has a total cycle time of 1 second. A runner moving at 12 miles per hour has a cycle time of 0.6 second. However, the stance phase has decreased from 0.62 second to 0.2 seconds.





The most important difference between running and sprinting in the time the athletes spends in the stance phase. This is called ground contact time. Strength and Conditioning trainers support the athletics coaches in helping to improve all the physical aspects needed to perform the task better. The problem lies in that we sometime get sidetracked by looking at the running gait to simplistically. We simply cannot just improve physical characteristics that are directly related to the performance increase but need to pay attention to the more subtle details of gait analysis too.



Running is an art in which all the pieces of a mechanical structure work together to help propel the body forward. The biggest obstacle in most youth is their inability to fully utilise their mechanical structures. Poor mechanics results in energy losses which travel through the body and create stress points. These stress points will over

time become major concern for injury. When we start to train at different gait speeds, we will start to see a number of variations in the way the body moves and the gait style. The mechanics for a sprinter will differ greatly from that of a marathon runner. It is thus extremely important that we understand gait at different speeds as this will affect the athletes training programme. Different gait means different obstacles in technique correction. An experienced trainer will have the knowledge to make sure that we are addressing the correct aspects specific to the athlete.

When we analyse gait, the faster the athlete moves the more evident the mechanical imperfections will be. The best way to do gait analysis is through video analysis and functional movement screenings to assess the athletes extensively.

The following is a checklist of running mechanic skill faults that need to be screened when observing an athlete. This is by no means an exhaustive list, but it provides a good idea of what to look for.

Posture

- Leaning backward
- Bending forward at the waist
- Excessive side-to-side sway
- Head position—back or forward

Arm Action

- Arms swing across the midline of the body
- Arm carriage: Too high/Too low
- Abbreviated arm action
- Excessive arm action

Leg Action

- Foot strike—exaggerated forefoot or heel contact
- Stiff hips
- No knee lift

These screenings are becoming more and more crucial to athletic success as the earlier we start with correcting the mechanics the better. The average athlete does not have many years at the top level in comparison to the effort and hours he sacrificed. It is always a shame when athletes and a young person suffers a career threatening injuries due to aspects that are our control. We must make sure that we help improve the athletes gait, not only to improve performance but more importantly, to prevent injuries!

In-Toeing Gait

Continued...

Text: Menzi C. Ngcobo, Biokineticist, Institute for Sport Research, University of Pretoria

In-toeing refers to a foot that appears twisted such that the toes point inwards. The twisting or torsion may be at any level in the leg, from the hip (femoral anteversion) to the tibia (tibial torsion) or the foot (metatarsus adductus - C shaped foot appearance). In the previous article we looked at how a pathological increase in femoral anteversion creates a toe-in position in the extremity. This article will further investigate the other two forms of torsional deformities (tibial torsion and metatarsus adductus) which may be responsible for In-Toeing Gait.

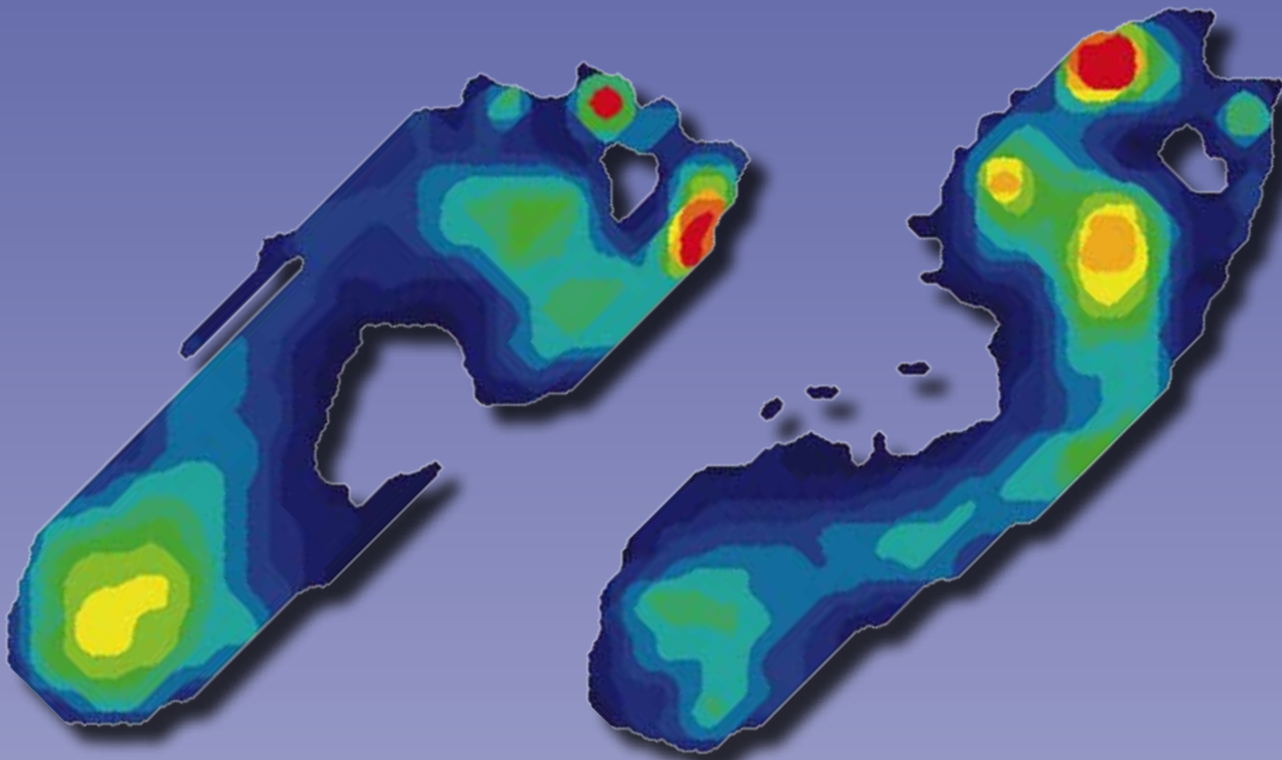
External rotation of the tibia increases with age and developmental changes produce an external rotation of 20° in the normal tibia (Hutter & Scott, 1949). The average angle of the transmalleolar axis is 4° of medial rotation in a newborn baby. Lateral rotation then gradually increases throughout childhood until the mean rotation is 23° in normal adults. Any measurement from 0° to (+) 40° is consistent with normal appearance and function. Individuals who present with internal tibial torsion (-) or severe external tibial torsion ($>40^{\circ}$) are considered abnormal (Thackeray & Beeson, 1996). In their study of lower extremity rotational problems in children, Staheli et al (1985) concluded that the vast majority of rotational variations fall within the normal range and require no treatment.

In contrast, Staheli et al (1972) stated that torsional abnormalities of the lower extremity in the children is a very common clinical problem and is due to tibial torsion. Hutter & Scott (1949) examined 1500 school children between the

ages of 5 and 7.5 years. They found that 10% of boys and 8.5% of girls showed internal tibial torsion whereas only 4% of adults examined showed internal tibial torsion. Similar trends were obtained by Svenningsen (1990) in their paper on hip rotation and in-toeing. They proposed that 30% of children have in-toeing gait at the age of 4 although the condition persists in only 4% of adults. The above two papers thus indicate that the incidence of in-toeing could be the consequence of hip or tibial abnormality. The last torsional deformity that may be responsible for in-toeing gait is the foot structure more specifically metatarsus adductus (Benjamin Jacobs, 2010).

Treatment for metatarsus adductus is often controversial and should be based on the severity of the condition (Pam Baxter, 2010). Some of the literature recommends only observation without intervention for mild cases and active intervention in severe cases or by two months of age, if the condition has not resolved. Other literature advocates treatment as soon as possible involving gentle mobilisation of the foot and/or the use of splints.

If the child is under 4 months old, some stretching can be attempted to restore the foot's normal shape. If stretching does not yield positive results, splinting and casting may be offered to the child between 4-12 months old. Most metatarsus cases (85-90%) identified at birth resolve by one year of age with only about 5% remaining at the age of 16 (Pam Baxter, 2010).



Treatment methods for in-toeing range from monitoring and observation; manipulation and cross legged sitting; use of corrective footwear such as gait plates and orthotics as well as serial casting and operative techniques (Thackeray & Beeson, 1996). Treatment does not only depend on the cause of in-toeing but also on the level at which the abnormality originates. Secondary harmful compensations occurring at other joints as a result of in-toeing also need to be taken into account during treatment or rehabilitation. Treatment and management of in-toeing varies greatly from one practitioner to the other. The general consensus amongst practitioners is that in-toeing will often resolve spontaneously by 12-14 years of age (Svenningsen et al, 1989). The recommendation is that operative techniques should be performed only for severe functional and cosmetic disability and not as a prophylactic measure (Thackeray & Beeson, 1996) 🌈

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THE ATHLETE & COMPARTMENT SYNDROME

Text: L, Liebenberg & R, Malan (Biokineticists, ISR)

What is compartment syndrome?

Compartment syndrome is a condition that occurs when injury causes generalized painful swelling and increased pressure within a compartment to the point that blood cannot supply the muscles and nerves with oxygen and nutrients. Compartment syndrome may be acute due to swelling that arises from injury, or it may be chronic because of exertion usually from athletic exertion.

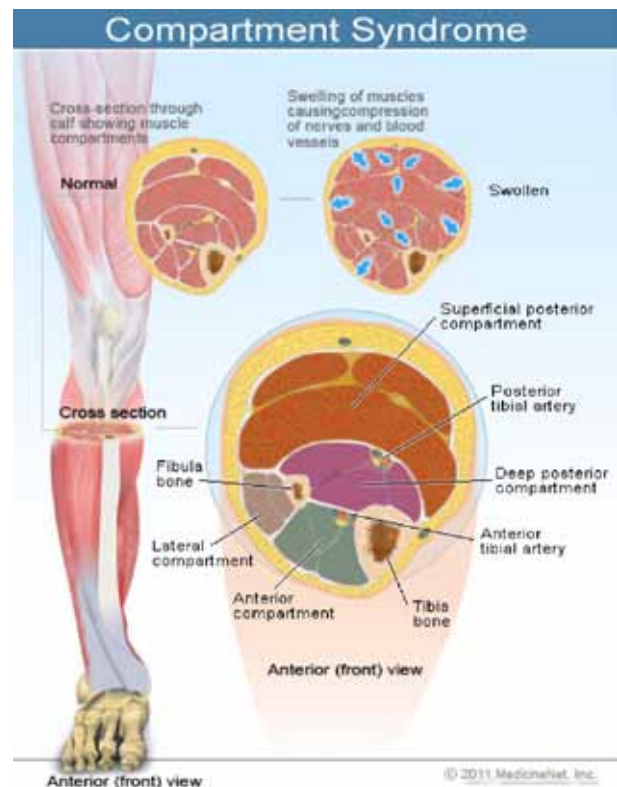
What causes compartment syndrome?

Muscles are contained in compartments or thick fibrous bands of tissue or fascia. Because of injury, pressure can increase within the compartment to swelling (fluid accumulation) or bleeding. In non-contracting muscle, the compartment pressure is normally about 0-15 mmHg of pressure. If the pressure within the compartment increases (usually greater than about 30 mmHg), blood cannot circulate to the muscles and nerves to supply them with oxygen and nutrients.

What are the risk factors for compartment syndrome?

Acute compartment syndrome occurs as a complication of an injury. Often it is due to a fracture of the radius or ulna in the forearm or the tibia and fibula in the lower leg that causes significant bleeding in one or more of the compartments. Bleeding can also be due to a badly bruised muscle. Crush injuries may cause both bleeding and swelling of a muscle.

Chronic compartment syndrome occurs because of excessive exercise, where repetitive motion and muscle use cause localized swelling and irritation. Most often, symptoms in the legs are seen with runners and bicyclists and in the arms of swimmers. Symptoms resolve with rest and very rarely progress to an acute limb threatening situation.



What are the symptoms and signs of compartment syndrome?

- Pain out of proportion to the injury.
- Loss of blood supply and nerve inflammation. This causes significant pain and numbness (usually resolve within a few minutes of discontinuing exercise).
- Tense and shiny skin that may be significantly bruised.
- Pain occurs with minimal range of motion of the foot, hand, or any of the extremity with compartment syndrome.
- In chronic compartment syndrome, there may be pain with range of motion of the extremity and muscle bulging may be noticed.

Bucholz RW, et.al. (2006)

Institute for Sports Research

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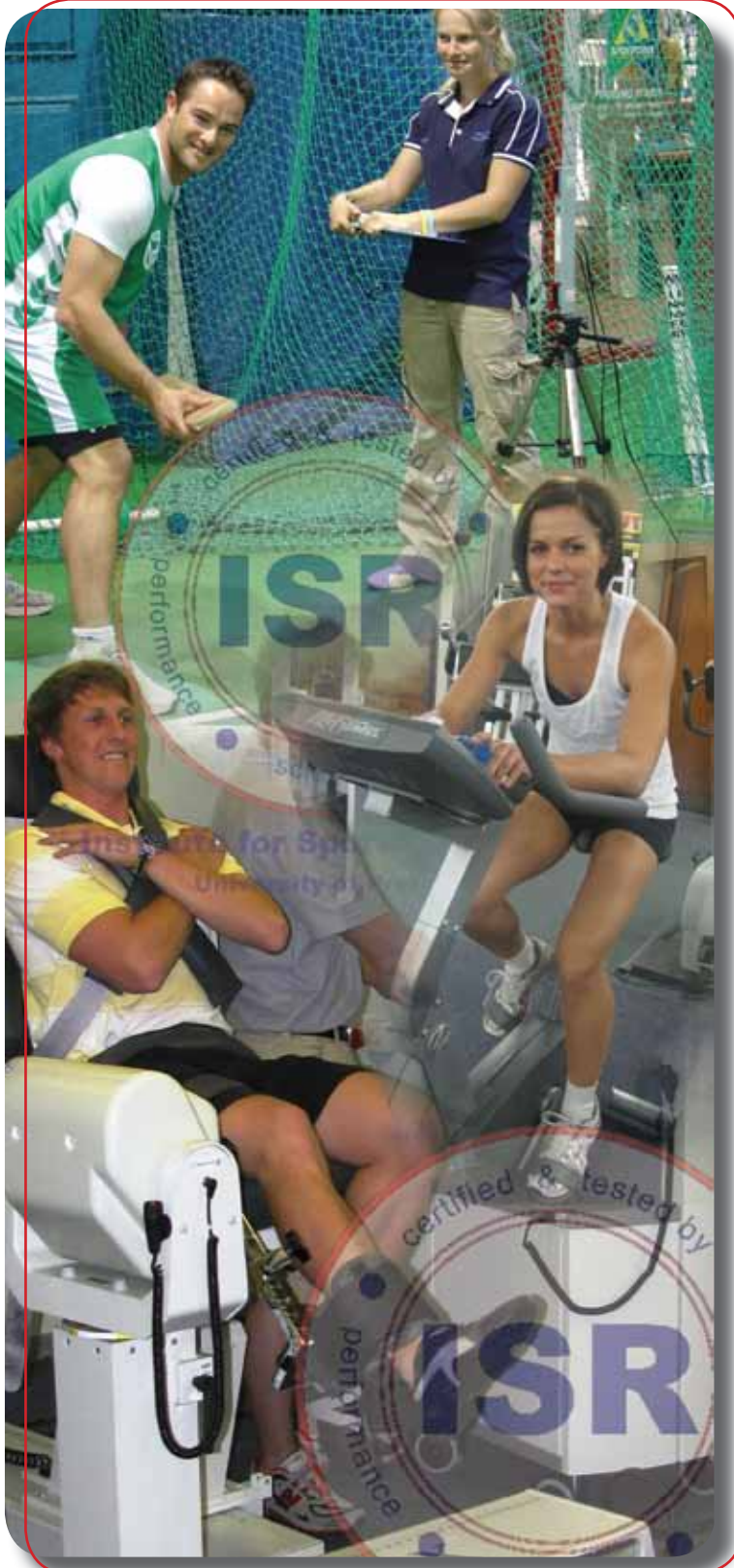
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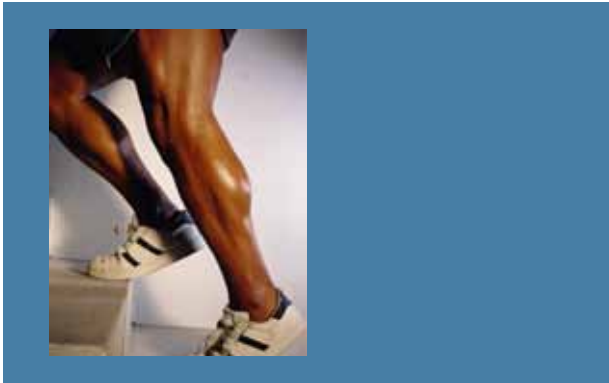
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Treatment of compartment syndrome

Prevention is always better than treating any condition. For compartment syndrome, prevention is the first step in treatment. Therefore any significant injury to the arms or legs should always be treated with the "PRICE" method which stands for prevention, rest, ice, compression and elevation. PRICE is used to minimise the potential for swelling which may lead to acute compartment syndrome (Peterson & Renstrom, 2001).

For chronic exercise induced compartment syndrome the athlete should rest, stretch the involved compartment, apply local heat, and analyse running surfaces, running technique, training, and type of shoes etc. A doctor may treat an injured athlete with diuretics and anti-inflammatory medications or even operate on the athlete (Peterson & Renstrom, 2001). The surgery performed is called a fasciotomy, which involves cutting the fibrous bands that line the muscle, allowing the muscle to swell and relieve the pressure within the compartment.



Rehabilitation of compartment syndrome

The rehabilitation of this condition is dependent on what caused it, therefore identifying the underlying etiology is important. Acute compartment syndrome therapy begins with gentle active range of motion exercise of the surrounding joints. During this stage, exercise must be taught and progressed gradually so as not to compromise the healing of the soft tissue. When soft tissue healing is complete therapy is continued with range of motion exercise and advances to strengthening programmes.

Compartment syndrome can be rehabilitated conservatively when it is a chronic condition. This method involves 6-8 weeks of: reduced or modified activity, massage, and other specific soft tissue mobilization and manipulation techniques. These techniques include myofascial stretching, taping, orthotic inserts, foot ware modification, stretching, and non-steroidal anti-inflammatory medications (Schubert, 2011).

Schubert (2011) states that there are four phases of rehabilitation after surgery to release compartment syndrome. These phases are as follows:

Phase 1:

Protection and mobility (\pm 2-3 weeks post-operatively).

Phase 2:

Light strengthening (\pm 3-4 weeks following surgery).

Phase 3:

Progression of strengthening (\pm 4-6 weeks following surgery)

Phase 4:

Impact/Sport Training (\pm 8-12 weeks following surgery)

The suggested therapeutic exercises for each of the phases are as follows (Schubert, 2011):

Phase 1:

Plantar flexion, dorsiflexion, version, eversion, knee flexion, knee extension, isometric quadriceps strengthening and supine leg lifts.

Phase 2:

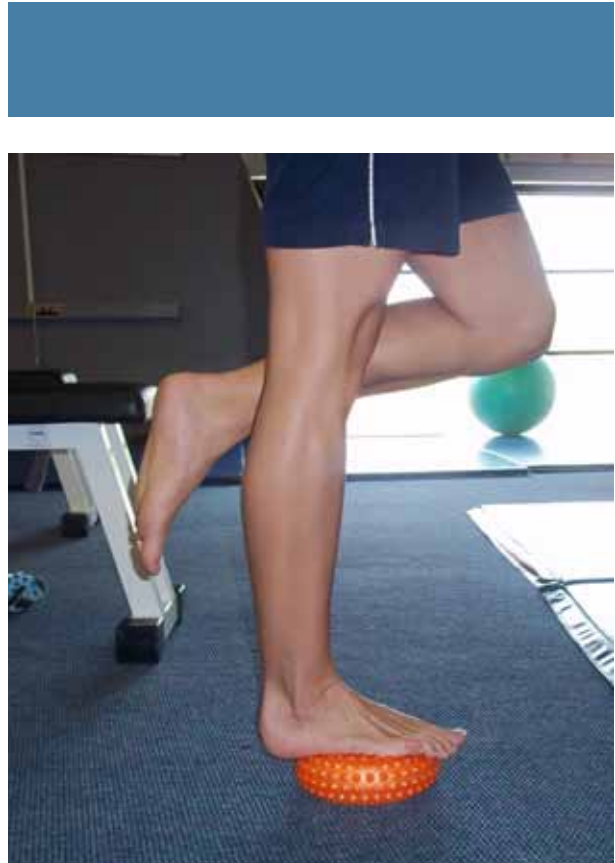
Stretches (held for 30-60 seconds 2-3 times a day), open kinetic chain ankle strengthening, balance and proprioceptive exercises, and gait drills.

Phase 3:

Lower extremity myofascial stretching/ massage, lower extremity closed chain functional strengthening, and basic plyometric exercises.

Phase 4:

Biomechanical assessment of sport specific activity, progressive strengthening exercises using higher stability and neuromuscular control, integrate movements and positions into exercises that stimulate functional activities, and sport specific training 🏃



Conclusion

Compartment syndrome when left untreated can become a devastating condition to any athlete. Quick recognition of the condition along with prompt surgical fasciotomy and proper rehabilitative techniques is essential for return to normal function and minimal injury

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A DAY IN THE FIELD

Text: Nicki de Villiers Registered Dietitian, hpc

- Eating on the day of the competition is important to prevent hunger before or during activity and to help supply fuel to muscles during the day.
- High-fat and high-protein foods should be avoided because they take longer to digest than carbohydrate foods and therefore can cause indigestion and nausea.
- Avoid excessive amounts of simple carbohydrates or sugars, e.g. sweets, candy and soft drinks before exercise. Complex carbohydrates will be a better choice, e.g. bread, pasta and crackers.
- In situations where nervousness or excitement decreases appetite, meal replacements or flavoured milk can be used as a liquid meal.
- Remember breakfast stays the most important meal. Try to eat your normal breakfast before leaving home. Remember to drink at least two cups of fluid with the meal.

Breakfast Options

- Cereal with milk, fruit and yoghurt and a glass of juice
- Toast with peanut butter or low fat cheese and tomato with a glass of milk
- Toast fingers with boiled eggs
- Tinned spaghetti on toast with flavoured milk
- Banana and peanut butter on toast with a glass of milk
- Scrambled eggs with creamed corn on toast and a glass of juice
- Crumpets with honey and a tub of yoghurt with a glass of juice



- If you have to travel long distances or need to make an early start before a game, pack some breakfast-on-the-run foods.

ON THE RUN BREAKFAST CHOICES

- Bokomo up and go
- Mix pronutro or future life with a lot of milk in a mug and use it as a drink
- Drinking yoghurt, flavoured milk or a box of milo
- Prepare a smoothie the night before – Blend fresh fruit, e.g. banana, yoghurt, milk and a tablespoon of honey together
- Bake whole wheat pancakes and keep in fridge; use cut banana with a tablespoon of honey as a filling
- Prepare snackwiches the night before and grab one on the way



- Check the time schedule of events and plan snacks and meals as follows:

No time between events: A sports drink only



Limited time – less than 1 hour between events: Take fluids – water and sports drink are important to include for hydration and an energy top up. A small amount of a low fat snack food may be included if hungry. Choose fruit (fresh, canned or dried) or a cereal bar; crackers or a small amount of jelly sweets.

Plenty of time – 1-2 hours between events: Include fluid – water, sports drink, fruit juice, smoothie, liquid meal, but avoid soft drinks with bubbles. Snack on cereal bars, sandwiches, rice - or pasta salad or crackers.

Longer than 2 hours between events: Top up on fluids and include a more substantial snack or a light meal.

- Don't rely on the canteen or vending machines to supply suitable snacks and drinks, as healthy choices are not always available.
- Be prepared by taking your own snacks and drinks supply.
- Always pack two drink bottles – one for water and the other with sports drink.
- Take a top up supply of cooled water, juice and flavoured fluids.
- It is always a good idea to include a little solid food with fluids if time permits.

Cooler Box Meal Ideas

- An extra cereal or energy bar with fruit juice
- Crackers with cheese wedges and cordial
- Packet of popcorn or pretzels with a few biltong sticks and cordial
- Bread roll with peanut butter and a fruit
- Jaffles with low fat mince
- Chicken wraps
- Homemade burgers
- Blend ripened, leftover fruits with 100% fruit juice and freeze as ice lollies
- Trail mix – blend of unsalted nuts, seeds and dried fruits
- Melba toast with dips, e.g. avocado or low fat cottage cheese



Cooler Box Snack Ideas

- Flavoured milk
- Liquid meal replacement, e.g.
- Ensure or Nutren Active
- Bokomo Up 'n Go
- Sports drinks or cordial
- Jelly sweets
- Water
- Jam or honey sandwiches
- Fruit juice
- Fresh fruits
- Raisins
- Bread roll with banana
- Cereal bars
- Banana or date loaf or muffins

- Make better choices from the food available

IT IS A MATTER OF CHOICE			
SWAP THIS		FOR THIS	
Hamburger with salad, cheese, egg and bacon + small Chips + can of Soft Drink	4 535 kJ 56 g Fat	Hamburger with one Meat Patty and Salad + can of Diet Soft Drink	1 675 kJ 17 g Fat
Half a medium Pizza	2 510 kJ 26 g Fat	BBQ Chicken Wrap	906 kJ 7 g Fat
Meat Pie	1 880 kJ 24 g Fat	Hot Dog	1 170 kJ 18 g Fat
50 g Bag of Chips + 55 g Chocolate Bar + Can of Soft Drink	2 860 kJ 30 g Fat	Ham Sandwich and Coffee	1 325 kJ 18 g Fat
Sausage Roll and a can of Soft Drink	2 215 kJ 28 g Fat		

BEST SOLUTION: Plan and Pack!

Myth busters

Debunking common sport nutrition misconceptions

Sport nutrition is a complex subject. New research constantly confirms or debunks previously held beliefs and just keeping up to date is a challenging task in itself. Over the next few issues we will debunk some common misconceptions and distinguish between nutritional fact and fiction.

Myth 1 – Use a pure protein supplement or high protein, low carbohydrate meal replacement for recovery after intense training sessions

After intense training, including weight training, muscle glycogen is depleted, muscle protein degradation is increased, and your body enters a damaging catabolic state. Directly after training a 'window of opportunity' exists for increased nutrient intake and recovery. The intake of key nutrients directly after training sessions is important for rapid nutrient transport and heightened anabolism. Protein balance cannot be restored in the absence of macronutrient intake and the replenishment of depleted muscle glycogen. Glycogen is the storage of carbohydrates, and replenishment can be done by supplying the body with sufficient carbohydrates, the raw materials of glycogen synthesis. In the absence of sufficient carbohydrate intake, protein consumed will be converted to glycogen – a very expensive source of energy. Sufficient scientific evidence exists that indicates that the intake of certain proteins, especially protein peptides, in conjunction with carbohydrates, elicits an insulinotropic effect that speeds up nutrient uptake and glycogen replenishment. Muscle protein synthesis can potentially be stimulated post-training after sufficient macronutrient intake has been achieved. Sufficient carbohydrate intake post-training has a protein sparing effect and should preferably be consumed with some protein to push the body to an anabolic state. Expensive high protein, low carb meal replacements can be consumed one to three hours post-training, and only after muscle glycogen was replenished directly after training. Pure protein supplements should preferably be consumed directly before going to bed.

Myth 2 – Creatine increases lean muscle mass

Creatine plays a role in the anaerobic alactic energy system and fuels repeated bouts of explosive, high-intensity training. Creatine is therefore used to promote increased maximal strength and explosive power. Creatine normally leads to water retention, creating a false impression of increased lean muscle mass. Looks can indeed be deceiving. Creatine therefore does not directly result in hypertrophy or increase lean muscle mass. In order to increase lean muscle mass you have to follow a hypertrophy weight training programme and you may need to increase total energy intake through increased consumption of protein and carbohydrates. In some cases creatine may be used after intense repeated bouts of explosive training to replenish creatine phosphate (CP) stores. Not everyone necessarily benefits from creatine supplementation. This is largely due to genetic reasons. Individuals who do not benefit are known as non-responders. Typically, a non-responder predominantly disposes of Type I or slow-twitch muscle fibres that do not make use of the ATP –CP energy system and therefore does not benefit from creatine supplementation. Non-responders also possess a greater initial quantity of intramuscular creatine and are therefore unable to absorb or take up more extra-cellular creatine. Responders have a greater fibre cross-sectional area and possess more fat-free mass. Creatine should not be used by children or adolescents.



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Rehabilitation Gymnasiums VS Commercial Gymnasiums

Strength & Conditioning and Physical Rehabilitation: Specialist Gymnasiums vs. Commercial Gymnasiums

Text: Leandro Camacho, Manager Tukes Student Gym, Institute for Sports Research

"Different types of gymnasium? Aren't they all the same... weights, cardio machines, etc.?" Well the answer is yes and no. YES, there are different types of gymnasiums and NO, they are not all the same. We all have a pretty good idea of what the run-of-the-mill commercial gym is all about. We are also familiar with cardio machines, selectorised machines, free weights, spinning studios, etc. So how do Strength & Conditioning and Physical Rehabilitation gymnasiums differ?

It comes down to the fine line between generalists and specialists. Generalists tend to know a little about a lot. Specialists, on the other hand, know a great deal about a narrow field. When it comes to sport, taking a specialist approach is important since being knowledgeable about specific aspects of physical conditioning is essential in optimising the body's capacity. Here is an overview of the advantages provided by specialist training gymnasiums.

Strength & Conditioning Gymnasium

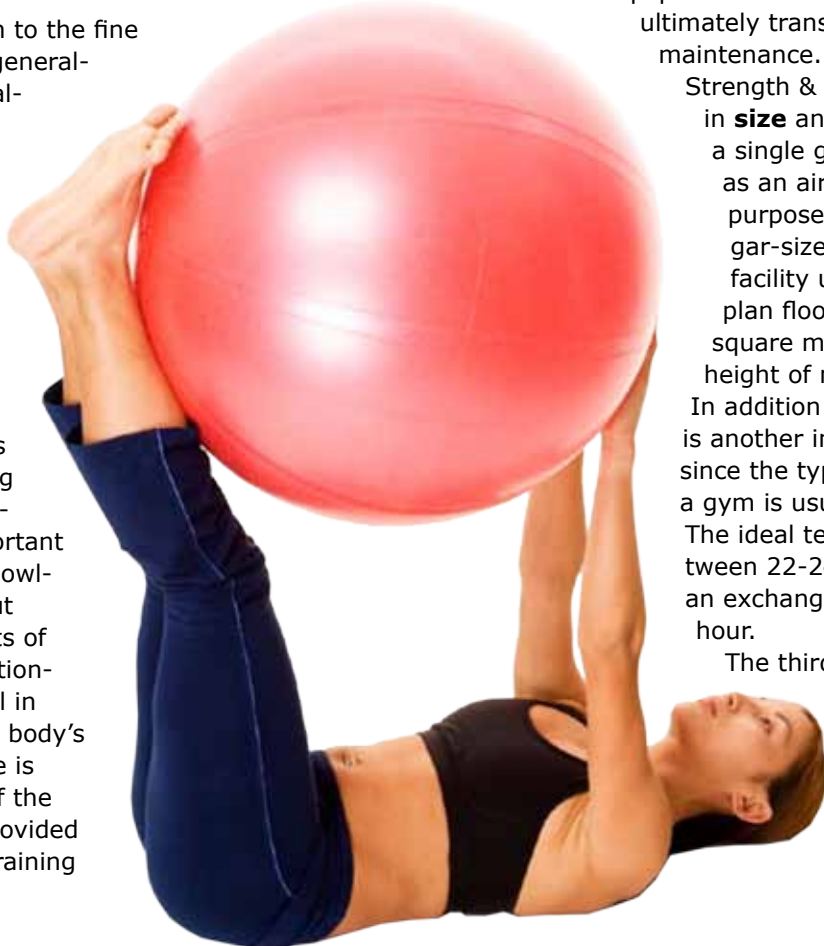
Text: Ignatius Loubser, Head Strength & Conditioning specialist hpc

Normally when people think of a gym, an image of one of the big commercial fitness centres or franchises springs to mind. But strength and conditioning facilities are not like any of those gyms. Rather, they challenge conventional "wisdom" and operate according to a different set of rules. In a commercial gym you're likely to find expensive, glossy equipment that is geared to be aesthetically pleasing and to make you feel that your membership fee is at least being well spent. Strength & conditioning gyms adopt a different philosophy. There you'll find less expensive equipment and more free weights, which ultimately translates into very little maintenance.

Strength & conditioning gyms vary in **size** and could be as small as a single garage or as spacious as an aircraft hangar. For our purposes, let's keep the hangar-sized gym in mind. Such a facility usually has a large open plan floor of about 500 - 1500 square meters, and a ceiling height of no less than 4.5m.

In addition to space, **ventilation** is another important component since the type of training at such a gym is usually of high intensity. The ideal temperature range is between 22-24 degrees Celsius with an exchange of 2 atmospheres per hour.

The third (and probably most significant) feature of a Strength & Conditioning gym is the **equipment**. Here is a list of what you should look for:



- Weightlifting platforms
- Weightlifting bars
- Bumper plates ranging from 0.5kg-25kg per plate
- Power racks and half racks
- Adjustable benches
- Adjustable boxes for box and depth jumps
- Jump stretch bands
- Chains
- Grapplers
- Tendo units / Myo test pro units (used to measure power and speed in the lifts)

There should also be enough space for a **slow movement area**. This is where you would use racks, benches, dumbbells, barbells and kettlebells. It is important that the area be large enough to accommodate a large team or group. Another important cog in the wheel is a **body weight training area**. Here you'd find a jungle gym/suspension training frame, glute/ham developers, reverse hyper extension machines, hyper extension benches and the like. Space should also be set aside for speed and **agility training**. Here's a checklist:

- 4-8 Lane tartan track (80m x 1.0m / lane);
- 250 square meters area for agility drills / quickness drills / plyometric drills / acceleration and deceleration drills / anaerobic endurance work (like "suicides");
- Equipment:
Hurdles, Rope ladders, Mini hurdles
Athletics hurdles, Cones, Sleds / speed resistors / speed releas ers, etc. and Tyres / sledge hammers.

Then there is the **pre-habilitation** area, which is another open space with softer flooring that requires the following equipment:
Swiss balls, Bosu balls, Medicine balls, Foam rollers, Balance pads and Thera-bands

The **cardiovascular area** will be much smaller than in a commercial gym and will consist of the following:

- Non motorised wood way curve treadmills
 - Rowers (Concept II)
 - Cycles – upright
 - Cycles – recumbent (rehab)
 - Versa climber
- This area is used for cross training and endurance training at low and high intensities.

Ultimately, the S&C gym will have a few things in common with a commercial gym. All gyms need

water fountains, wall clocks, a music centre and proper lighting (it is important to let in as much natural light as possible. Motivational posters along the walls are optional. But what a normal gym won't have is a centre where doctors, physiotherapists, biokineticists are on call.

Physical Rehabilitation Gymnasium

Text: Tanya Camacho Senior Biokineticist & Manager Biokinetics Division, Institute for Sports Research

The main difference between a physical rehabilitation gymnasium and commercial – and strength & conditioning gymnasiums – is the exercise focus and the target market. Physical rehabilitation gymnasiums focus primarily on rehabilitation and accommodate patients recovering from an injury, illness or disease. This may include heart disease, diabetes, sports injuries, joints replacements, etc. Per definition, rehabilitation is defined as a treatment or treatments designed to facilitate the process of recovery from injury, illness, or disease to a functional state of activity.

Physical rehabilitation gymnasiums may be found in a variety of settings including clinical and office practices, hospitals, nursing homes, sports medicine clinics, tertiary institutions and some health maintenance organizations. They usually house a team of medical practitioners that use exercise as a rehabilitation technique, such as biokineticists, physiotherapists and/ or occupational therapists. These gymnasiums are specifically designed to allow therapists to progress individualized treatment programmes in a controlled environment. It is important that such a facility should have the necessary exercise equipment and also adequate space for functional training techniques. Clients using rehabilitation gymnasiums are usually referred to as "patients" and seldom train unsupervised. They are always assisted and supervised by a qualified therapist registered with the Health Professions Council of South Africa (HPCSA).

The exercise equipment used for physical rehabilitation includes equipment found in commercial gyms such as stationary bicycles, treadmills, adjustable pulleys, and free weights, as well as rehabilitation specific equipment such as isokinetic machines, exercise tables, mats, walking aids, practice stairs, and parallel bars 🏊

Positive Parenting in Sport to Encourage and Inspire our Children



Text: Mary Ann Dove - Performance Coach and Co-founder of Positive Sport Parent

Over the past 30 to 40 years sport has undergone very many changes which have challenged the thinking with which most of us who are now parents grew up in and thus strategies that worked in the past are less likely to work in the future. So what are some of these changes?

- Professionalism in sport now provides opportunities for kids to earn a living playing sport
- Increasing competition and challenges increases the pressures that kids have to deal with in the sporting environment
- Scientific research has enhanced our knowledge as to what the human body is capable of
- Media and communication technologies have brought sport into our homes as never before
- Medical advancements have facilitated the prevention and treatment of injuries to enable a swift return to sport
- The proliferation of supplements, performance enhancing substances and other nutritional products which sports people believe provide the body with the means to perform optimally
- The power of the mind has been acknowledged as providing an important differentiator between success and failure

We all know the positive benefits of getting our kids to exercise regularly - physical, psychological, emotional, social and intellectual development, but if we get it wrong the costs can often be tragic, traumatic and in some instances life-long:

- Crippling injuries
- Brain damage through concussion
- Abuse of performance enhancing substances
- Eating disorders
- Psychological difficulties
- Increased aggression

How do parents effectively manage these paradigm shifts and challenges in the best interests of their children?

Positive Sport Parent has been established with the vision of instilling confidence in parents to enable them to support their children's enjoyment and achievement in sport by:

- Providing access to credible, high quality, targeted, researched and practical information that is understandable;

- Supplying high quality advice by professionals who are empathetic to the needs of children at a critical stage of their development and;
- Using a wide range of authoritative experts and professionals as its resources.

Here are some practical tips that parents find useful in managing the challenges - from their kids, coaches, other parents, officials and administrators - that they face on a day-to-day basis.

1. Walk the talk – be a role model for your child. We all know how our kids copy what we say and do and the behaviours they learn in childhood are highly likely to persist in adulthood.
2. Recognise that development into a competent sports man or woman is a process that takes time and patience to master the skills necessary to succeed either as a participant or a competitive athlete. Each child is unique and will develop at his/her own pace, taking part in the sports that he/she comes to enjoy through exploration and performance.
3. Communicate with your child about their goals, their feelings and constructive feedback is fundamental to inspiring a life-long love for sport.
4. Research has shown that kids with a balanced approach to their sport, school work, family, friendships and other activities perform more effectively in all spheres of their lives.
5. Recognise and reward your child's progress and efforts and not just the results. There is no correlation between winning at an early age and later success.
6. Develop respectful and dignified relationships with the other stakeholders in your child's sporting life, particularly coaches and officials and be supportive of their efforts without becoming over involved.
7. Provide a balance diet with a variety of healthy foods. Resist the temptation of "magic" drinks and pills that can't replace the consistency of hard work, discipline, skills development and a positive attitude derived from the love of sport.
8. Provide unconditional love to your children – accept them for who they are and not what they do.

In future articles we will go into some of these suggestions in more detail



Mary Ann Dove Profile

Mary Ann has an honours degree in Sports Science from the University of Cape Town as well as a Certificate in Coaching and psychology qualification. She has been involved in sport all her life as a participant (provincial gymnast), scientist, consultant and manager of youth and senior teams. She has worked with developmental to Olympic level athletes across a wide spectrum of sports.

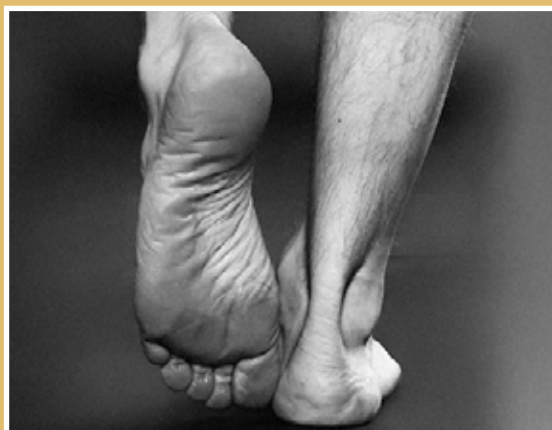
Mary Ann has 20 years' experience in the corporate world gaining business consulting, leadership development, project management, facilitation, lecturing and coaching expertise. She currently runs her own business Performing 4 Success which specialises in developing individuals and teams to achieve sustainable performance goals in business and sport. In addition, she is the co-founder of Positive Sport Parent (www.positivesportparent.com) which provides parents with authoritative information that enables them to inspire and encourage their children's sporting participation.

She is still a very active, but less competitive sportswoman partaking in half marathons, cycle races, tennis, swimming and in 2009 successfully summited Mt Kilimanjaro.



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Running on hype



Text: Garreth Bruni, Physiotherapist, hpc

It's not a new topic this barefoot running one, but one that has found new fuel recently. Prehistoric man ran barefoot, so did Zola Budd and Abebe Bikila and now we all know the Tarahumara Indians of Mexico run barefoot. Now, so should you! Or maybe not.....

The publication of *Born to Run* by Christopher McDougall in 2009 recounts the lives of Mexico's Tarahumara Indians who run long distances barefoot or wearing only a thin soled sandal. According to the book, the Indians suffer far less chronic injuries because of their penchant for running barefoot and it attributes many of our societies' running injuries to the modern running shoe. Following the publication of the book, an article was published in the journal *Nature* by Daniel Lieberman, this article added more "scientific weight" to the barefoot running debate. This study measured foot strike patterns and collision forces in barefoot and shoe wearing participants. Essentially there were three main findings of this study:

- Foot -strike patterns change depending on what type of shoe you are wearing or are not wearing- a well known fact backed by eviuous research.
- Your foot will be more plantar-flexed (foot

pointed) when you land when not wearing shoes. i.e. Forefoot strike. Once again, this was already known and backed up by previous research.

- Impact forces are three times lower in barefoot runners with a forefoot strike than those who heel strike while wearing shoes. This is disputed by other studies. That means other studies did not find similar results.

Impact forces are assumed to be associated with chronic running injuries like stress fractures, shin splints, plantar fasciitis, runners' knee and patella tendonitis. Because of this assumption, it is then assumed that barefoot running will lead to fewer chronic injuries. That is to say this current barefoot running saga is based on these unproven assumptions. Besides these two assumptions, there are confirmed advantages of barefoot running:

- It strengthens muscles in your foot.
- It uses up to 5% less energy than when wearing shoes.
- It improves balance and proprioception.

So there are some advantages to running barefoot or wearing "minimalist shoes". But does

that mean you should swop your shoes for the new Vibram Fivefingers shoes? I don't think so.

I think what is important here is to realise that any information taken out of context can be misinterpreted and lead to improper conclusions.

The Tarahumara run vast distances barefoot and don't suffer from chronic injuries, therefore modern man should do the same- This is an example of information that is taken out of context and applied poorly to another unrelated situation to get desired outcome. This deduction was most probably done by the marketing department of a shoe company.

I say the information is taken out of context because the Tarahumara Indians spend their lives growing up not wearing shoes and running these huge distances on all sorts of terrain in the Mexican wilderness while living a frugal and simplistic life. It is then applied to the modern day man who spends most of his day and life wearing shoes while being sedentary, only to run after work or on the weekends. The comparisons are not the same. The fact that they are not wearing shoes seems irrelevant to me, there are too many other variables to be considered. Way too many other variables for all

this hype.

If you have been running for a period of time without chronic injuries a change to minimalist shoes is not necessary. If you have started running and some niggling injuries have occurred, it is more likely your training volume and loading, that is incorrect and just by modifying your training load and allowing your body time to adjust may solve your injuries. Stretching shortened muscles and strengthening weak muscles can alleviate niggling injuries. My point being: that just by changing to minimalist shoes you cannot reduce your injury risk. Physiological adjustments take time, stretching and muscle strengthening takes time. It's not as easy as changing your shoes.

A study in Cape Town showed that by changing foot strike patterns to forefoot landing

-barefoot style- there was less impact force and work generated at the knee, but within two weeks of this study 19 of the 20 participants had succumbed to injury. Their ankles did not have time to adjust to the new demands placed on them. The point is that changing a variable, whether it be a running style or shoes or running programme will load your muscles, tendons and joints in other ways and places. This new loading requires an adjustment time. Time, not new shoes, not NO shoes. Time.

In conclusion, if you are to start running and you come from a background where wearing shoes is the norm, then I would recommend that you start running wearing shoes and follow running programme that has a gradual build up. If however you don't

wear shoes all day then the transition to these minimalist shoes may be easier, provided your running programme has a gradual build up. A gradual build up- that, seems to be the common variable 🌈

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Injuries North vs South

Text: Dr Orgy Strauss, hpc

An interesting debate in rugby union is always around the comparison of northern to southern hemisphere rugby and the intensity of different competitions played in these hemispheres. The comparison of injury incidence between these competitions are also interesting.

In 2008 a study was done on the incidence of injuries in the Super 14 and Vodacom Cup played under experimental law variations, and these results were compared to injuries in the English Premiership and Rugby World Cup 2007.

The Super 14 competition comprises the leading professional club rugby players from Australia, New Zealand and South Africa and represents a similar standard of play to the Premiership in England: the Vodacom Cup involves the second tier of professional players in South Africa. Although there are significant differences in players' anthropometric measurements between the two competitions and compared to the English Premiership and RWC, the differences in absolute terms are small compared, for example, to the differences between these players and elite 18 year-old South African rugby players (stature: 179.2 cm, $p < 0.001$; body mass: 84.9 kg, $p < 0.001$).

Previous studies of Southern Hemisphere professional rugby teams used different definitions of injury from this study, which followed the recommendations of the rugby consensus statement. This made direct comparisons of the present study with these earlier studies difficult or impossible. However, other studies reported an incidence of 45 (95% CI: 27 – 76) missed match injuries/1000 player-match hours for one New Zealand Super 12 team, and a value of 31 (95% CI: 21 – 47) for three South African Super 12 teams. These values were not significantly different from the results reported here for missed-match injuries in both the Super 14 and Vodacom Cup. The incidence of time-loss injuries reported here for the Super 14 competition was similar to the incidence of time-loss injuries reported previously for English Premiership teams, although the

incidence in the Vodacom Cup was significantly lower. The results for both the Super 14 and the Vodacom Cup competitions were similar to the results reported for RWC 2007.

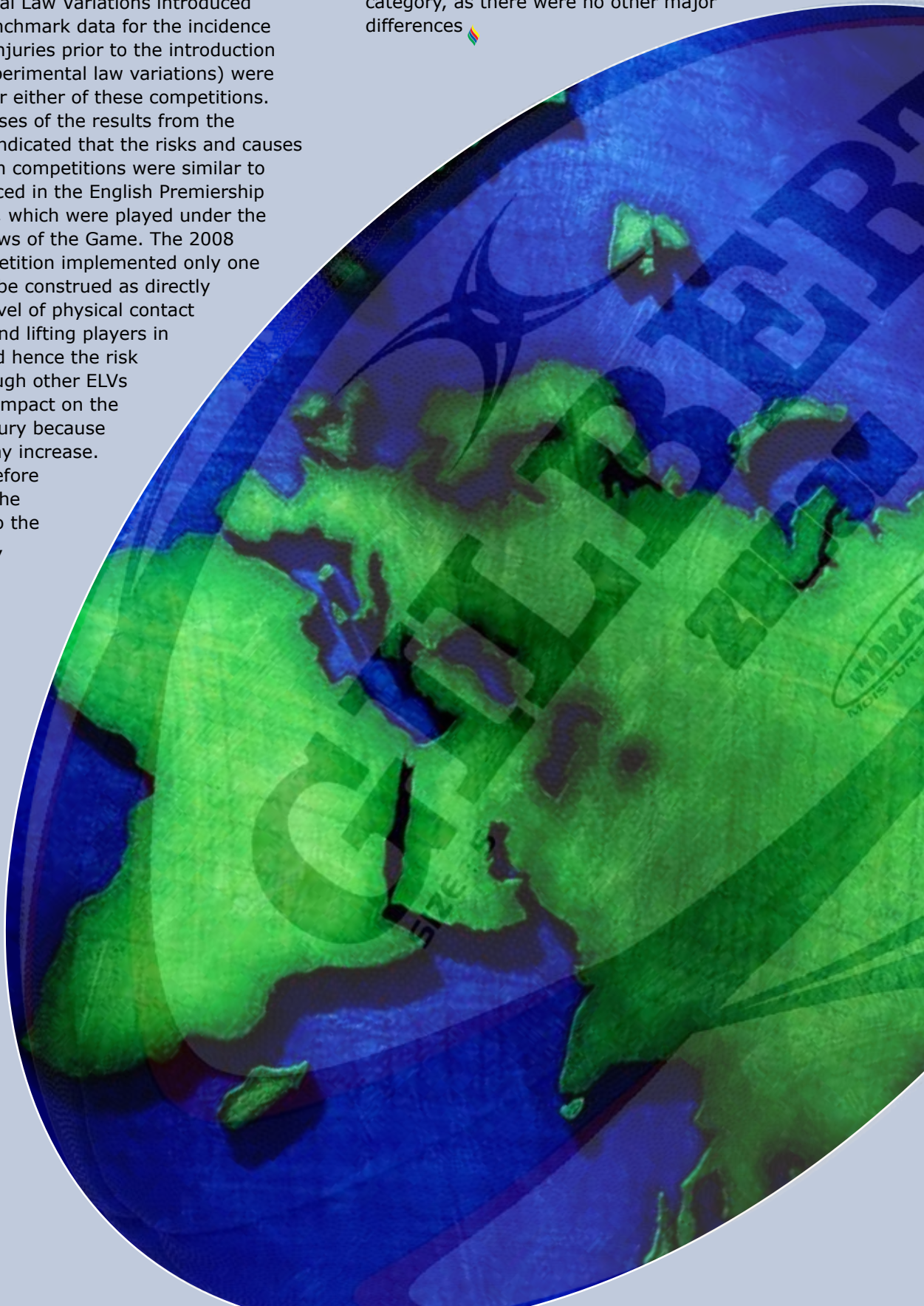
Injuries reported in the Vodacom Cup were significantly more severe than those reported in the Super 14 competition; this was mainly due to the higher incidences of minimal and mild injuries reported by Super 14 teams compared to Vodacom Cup teams. Comparisons of injury severity with previous Super 12 studies were not possible, as mean and median severity values were not published for either study. The severity values reported in the present study do however compare closely to the mean values of 18 and 15 days reported for the English Premiership and RWC 2007 respectively and the median value of 7 days reported for the RWC 2007.

There were no significant differences in the nature of injuries sustained in the Super 14 and Vodacom Cup competitions with the highest proportions of injuries in both competitions being lower limb muscle/tendon and joint (non-bone)/ligament injuries. It was not possible to compare the present results with previous studies of Super 12 competitions, as diagnoses for match and training injuries were grouped together in both the earlier studies. There were, however, no significant differences in the nature of injuries in either competition compared to equivalent results reported for the English Premiership and the RWC. The five most common injuries in the present study included the three most common injuries reported for English Premiership rugby (thigh haematoma, 8.8%; hamstring muscle strain, 6.2%; concussion, 4.8%) and RWC 2007³ (ankle ligament, 9.9%; knee ligament, 9.9%; hamstring muscle strain: 9.9%). The tackle was the most common cause of injury in both competitions, which is consistent with previous reports in English professional rugby. The major differences in injury causation in the Super 14 were significantly fewer ruck/maul and more tackled injuries compared to the English Premiership and significantly fewer collision and more tackling injuries compared to RWC.

For the Vodacom Cup, there were significantly more tackling injuries compared to the RWC. Overall, the incidence, nature and causes of match injuries in the two Southern Hemisphere competitions were similar to those reported previously for teams competing in the English Premiership and Rugby World Cup.

The Super 14 and Vodacom Cup competitions covered by the present study were played under the Experimental Law Variations introduced by the IRB. Benchmark data for the incidence and nature of injuries prior to the introduction of the ELVs(experimental law variations) were not available for either of these competitions. However, analyses of the results from the present study indicated that the risks and causes of injury in both competitions were similar to those experienced in the English Premiership and RWC 2007, which were played under the existing IRB Laws of the Game. The 2008 Super 14 competition implemented only one ELV that could be construed as directly affecting the level of physical contact (pre-gripping and lifting players in the lineout) and hence the risk of injury, although other ELVs may indirectly impact on the incidence of injury because time in play may increase. The study therefore indicated that the ELVs falling into the 'administrative', 'procedural' and 'technical' categories implemented in this competition did not impact adversely on the

incidence, nature or causes of injury. The 2008 Vodacom Cup, on the other hand, implemented all of the proposed IRB ELVs but the incidence of injury recorded in this competition was significantly lower than that recorded in the Super 14, the English Premiership and the Rugby World Cup. Whilst this may simply reflect a lower standard of play, most of the difference can be accounted for by the significantly lower incidence of injuries recorded in the minimal injury severity category, as there were no other major differences 🇿🇦





The equilibrium of excellence

Text: Jason Lawson

Any athlete aspiring to be the greatest needs the desire, drive and focus in order to fuel a sustainable, professional career that can go on for an extended period of time. It will change every aspect of who they are, influence all areas of life, and will mould them into the elite athletes amongst those who dare to dream.

An athlete who dreams of sustaining a professional career cannot be defined by the outdated notions of professionalism in the sporting arena. The best athletes are not merely competing as a full-time sports person – many requirements are incorporated into the professional athlete of 2011. Today, the level of excellence in the sporting world has been elevated and being able to compete in the international arena as a professional is no easy task. Hours of training, dedication and persistence are demanded from those brave and bold enough. It comes down to the individual and their mental toughness. For some this mental resilience will result in the ability to push through physically demanding training programmes and endure pain, fatigue and stress and – when all is said and done – they will still prevail. Some athletes will have to demonstrate a level of composure and calmness when faced with a challenging situation. Whatever challenges

stand in the way of a professional career, a strong mind will be a key ingredient to achieving greatness.

Maintaining a career as a professional for an extended period of time means there are many factors that have to cohere from both the athletes influence as well as an external influence. It is understandable that when an athlete is competing at an elite level, irrespective of the sport they are competing in, they will be pushing their own mental and physical thresholds in order to achieve the best results possible. Given that some sports do naturally have longer training hours and higher risk of injury, any of these athletes will have particular requirements to meet in order to train and develop aspects of performance.

The goal is to be able to meet the required hours training. In stating this it is not, however, only about attendance, but to be able to give of their best upon arrival in each practise session. To do the work needed to be the best will always in its self be a challenge – for some more than others. When looking at managing an athlete to ensure that there is a long term development and improvement that will allow performance for a number of years, consideration must be

taken into the setup of the training programme. This must be done with a clear understanding of where the athlete is at the current point in time. Involving aspects such as an evaluation or assessment that should consider the athlete in their entirety; a wholesome approach that will indicate both strengths and weaknesses. This is important as any augmentation to the training program that occurs will be directly related to the type and way training is experienced. This in essence is indicative of the specificity in which development will take place in the body, a great physiological ability that must be used as a benefit. Therefore considerations of general fitness and base training, assessing the weak areas and building them up before a progression to the more sport and event specific training can commence. Foundation and fundamentals are essential in the prolonging of an athlete's career as they reduce the risk of injuries, as well as ensuring that the athlete will respond optimally to the specific training upon exposure later on in the season and or career. Maintenance of these fundamentals and foundations can be a very positive aspect as an athlete progresses, and is critical that they become part of the routine criteria of a training set up.

When training an athlete, clear objectives must be set in place in order to ensure that there is a common idea and focus that will be present throughout. As objectives are met or challenges present themselves, an athlete's focus can be re-evaluated and adjusted. This is demonstration of the need for plasticity to be present in harmony with fixed ideas. As the training and competing of an athlete is what is to determine success, these are the two critical aspects that need to be subjected to planning and timing. If an athlete wants to perform at the Olympic Games, then that is what the training as well as the competition performance will be focused upon, and based around. This shows that timing is everything, the peak performance must occur when it matters.

When an athlete begins a new programme or stage in training, there will be a transition that demonstrates what can be termed GAS. GAS refers to General Adaptation Syndrome; it is comprised of three phases:

1. Alarms Phase
2. Resistance Phase
3. Exhaustion phase

The role of a coach is to monitor the athlete when new intensities or aspects are added to training as the athlete will experience

stiffness, soreness and a possible decrease in performance. This is followed by adaptation of the body to the new intensity and exercise regime, and the resistance phase commences. With the body now able to cope with the stressor, normal functioning will begin to return. The adaptation initially is neurological – and at this time structural, biochemical and mechanical adaptations of the muscular systems involved begin – a concept commonly referred to as super compensation. Training will progress and careful observation is needed in order to prevent entry into exhaustion phase. A good relationship between coach and athlete will allow communication that can assist. During a long and successful career, the athlete will go through this cycle many times. Monitoring and perfecting the cycle according to the individual will assist with the all-important timing.

A major concern for any athlete's career is injury. A long and successful career is more likely if the individual is less prone to injuries and illness. Optimally, an athlete's career would be best suited to an injury free and healthy stage of their life, as this would allow performance in training as well as in competition success to be greater. The best cure is prevention; an approach to dealing with injuries has been focused around a preventative mechanism in terms of treatment. Screening where a series of tests and evaluations that are available are conducted detecting areas of weakness and, as a result, a preventative step can be taken to strengthen these areas and reduce the risk of injury. This concept can be implemented through a process of active prevention, where ice bath, sauna, stretching and massage therapy will ensure that recovery and ability to continue training and putting in the hours required is possible. This desirable state of well-being, however, is not the case for many athletes as – at some stage – an injury or period of illness does occur. The management and treatment of such an event can determine the effect and outcome of this occurrence. This point is indicative of how important a support team of medical staff and physiotherapists is in extending an athlete's career. They should be available to the athlete at any time, to constantly be able to evaluate, check the individual and deal with any problems as soon as they present themselves. After an injury, the initial phase is inflammation. This phase of tissue healing is associated with pain, swelling and redness. The reason behind the inflammation is that there are changes that occur in the vascularity. This refers to the blood vessels and blood flow. Firstly the vessels become more permeable and substances move from the blood vessels into the surrounding tissues – this is known as oedema (swelling)

the oedema or swelling prevents the contraction of the muscle. As a result, the function of the injured area is affected. Inflammatory substances stimulate pain and this will further reduce function. This stage lasts about two to three days and the best way to manage it is through the controlling of the inflammation so that it does not have an impact on rehabilitation. This is achieved by optimising the environment through mechanisms described by RICE: rest, ice, compression and elevation.

The next phase is repair where collagen fibre production increases. This is to replace the damaged tissue with new tissue. This new tissue, however, will still be weak as there is no organisation of these fibres. The number of inflammatory cells begins to decrease and some exercises should be initiated in the correct amounts as too much or too little will influence the duration of the healing process. Excessive muscle atrophy (or muscle degeneration) is what must be prevented by the athlete in this phase so a low load stress is initiated. Active resistance exercises should be avoided during this time. The goal is to achieve neuromuscular control. This is where isokinetic exercises come into play and should be done in conjunction with isotonic activities, allowing variability in the exercise as well as controlled movements.

The final step physiologically is remodelling. Here the collagen fibres produced undergo alignment and the strength of the repaired tissue can begin to increase. If the athlete is to continue with their success, the injury must not only be able to be restored to normal functioning, but also have the potential to have improved functioning if required. Therefore this phase focuses on the optimization of functioning. This should continue to be done in a progressive manor as to allow hypertrophy (growth) and correct alignment of the fibres. Consideration of joint angle and velocity-speed muscle activation and activity is important to allow progression from general, isolated movements to sport specific exercises. Healing and rehabilitation are influenced by the type of injury, location and then factors such as age, lifestyle and the individual's genetics. As the body progresses through these stages of recovery and rehabilitation, they are to be complemented by what the athlete is exposed to in terms of rehabilitation exercises, nutrition and rest. A coach or manager can only control a certain aspect of an athlete's preparation. Lifestyle: general life outside the training environment such as habits, social involvements, health, sleeping patterns and a variety of other factors, will all influence training and recovery. This has been defined as a professional lifestyle by the English institute of sport, and it is here where the

athlete will again take control of their career, the professional athlete is not only professional when competing and training, but also in living.

The role of the coach in all of this is to be a person of influence. To subject the athlete to motivation, support, hardship, training, excitement, and direct them in such a way as to constantly create moments of right moves, stepping and shaping the athlete in the desired direction and helping them achieve to the greatest of their ability. This in turn means that a coach is not there to simply teach, train and instruct, but also motivate, discipline and manage, to support, learn and be an exemplar. All philosophies and experience will be drawn upon during their athlete's career, and they too have to deal with the injuries, state of mind, and specificity of the individuals they coach.

The correct combination of athlete, coach, environment and facility will improve performance and allow the reaching of full potential, not only ensuring the athlete does so once, but for a prolonged period of time – enjoying a plentiful and successful career. By recognising, understanding and providing for the other needs of the athletes, the athlete can provide what is required to be the professional sports person they were born to be 🏆



Declaration of the National Sport and Recreation Indaba

22 November 2011



The hpc's CEO, Toby Sutcliffe, was invited to participate in this very important sports indaba that brought all the major role players in SA sport together. The way forward for SA sport was decided upon & is outlined in the declaration published below.

The 640 delegates from the South African sport and recreation sector are present at the National Sport and Recreation Indaba held on 21 – 22 November 2011 at Gallagher Convention Centre in Midrand, hereby gathered under the theme of "from policy to practice". We hereby;

ACKNOWLEDGE THAT:

- 1) As a country and as people we have inherited an inequitable, unequal and divided sport and recreation landscape.
- 2) The racial practices of the former apartheid regime resulted in a fragmented sport system that had a detrimental impact on the development of sport and recreation in South Africa.
- 3) Irrespective of these racial practices various sports organisations tirelessly fought for the establishment of a sports system free of discrimination that would provide equal participation opportunities for all South Africans.
- 4) There is an urgent need for the transformation of the delivery of sport and recreation in order to level the playing field within our sector.
- 5) Sport is a fundamental constitutional, socio-economic and human right which has the potential to improve the quality of life of all South Africans.
- 6) We have not successfully implemented the sports development continuum which will ensure the well coordinated and seamless development of athletes from talent identification to the elite levels.
- 7) The lack of physical education and participation in sport in schools has led to increased inactivity, obesity and socially deviant behaviour.
- 8) The use of illegal substances for performance enhancement has become a serious problem in schools.
- 9) There is still an inequitable and inaccessible provision of sport and recreation infrastructure at community level, especially in peri-urban and rural areas.
- 10) South African sport has insufficient leadership and weak corporate governance impacting on the delivery of sport to all sectors of the community.
- 11) There is a lack of efficient and effective

structures and programmes to build human capacity.

- 12) There is a lack of cooperation and alignment of strategic goals between the role-players in sport and recreation.
- 13) Recreation is neglected as a key element of an active nation.
- 14) Sport and recreation activities have not always been inclusive of marginalised groups, especially women, the youth, the elderly, people residing in rural areas and persons with disabilities.

BELIEVING THAT:

- 1) Through transformation, South Africa could become a successful active and winning nation in the global arena, however, there is a need for additional financial resources to deliver sport and recreation.
- 2) The NSRP represents a truly "bottom-up" plan for transforming the delivery of sport and recreation in South Africa and was developed through an intense and thorough consultative process with robust debates and constructive contributions from all role-players that comprise the sports sector in the country.
- 3) The South African sport and recreation system should be based on three core pillars namely an active nation, a winning nation and an enabling environment.
- 4) The NSRP has the potential to reconstruct and revitalise the delivery of sport and recreation towards building an active and winning nation that equitably improves the lives of all South Africans.
- 5) Sustainable talent identification, nurturing and development programmes are required to contribute to holistically transforming the sport and recreation sector.
- 6) South Africa will have to prioritise National Federations to maximise its chances of international success.
- 7) Physical education must be compulsory and there must be vibrant sports programmes in all schools.
- 8) Sufficient and accessible sports facilities that are well maintained and fully utilised, as well as a sufficient pool of highly skilled and professional human capacity are a prerequisite for the delivery of sport.
- 9) Sport is a valuable tool to support and achieve a diverse range of national and global

developmental priorities.

- 10) South Africa has the potential and means to be a destination of choice for major events and sports tourism.
- 11) The power of sport in nation building, unity of purpose, and social cohesion is immense and evident in South Africa's success as a young democracy and continental sporting powerhouse.
- 12) Sport and recreation is a significant contributor to the country's GDP and therefore the sport economy must be enhanced and the sport sector must be recognised as an employment driver in government's new growth path.
- 13) The sport and recreation sector must be underpinned by a code of ethics with South Africa globally respected for its high values and ethical behaviour.

WE THEREFORE RESOLVE AND DECLARE THAT:

- 1) The complete list of resolutions adopted at the 2011 Sports Indaba is on the National Sport and Recreation website.
- 2) The National Sport and Recreation Plan (NSRP) must be updated with the **ADOPTED RESOLUTIONS** and inputs from the National Indaba by 31 January 2012.
- 3) The NSRP will be an 8-year sustainable plan which will be closely monitored annually to identify any hindrances which may negatively impact on implementation. This plan will be reviewed in 2020.
- 4) There will be inclusive and equitable delivery of sport and recreation to ALL in South Africa; in a manner that ensures access, socio-economic development, and excellence as part of a transformation continuum.
- 5) Transforming the delivery of sport and recreation is a policy imperative and as such will be led by government and mented by SASCOC together with other role-players in the sport and recreation sector.
- 6) The key role of government is to create the applicable policy, legislative and regulatory frameworks, and to support an enabling environment for the equitable delivery of sport and recreation.
- 7) SASCOC shall lead civil society in "translating policy into action".
- 8) That all sport and recreation funding will be allocated to the implementation of the NSRP and any activity not contained in and aligned to the NSRP will not be funded by any sphere of government, SASCOC, National Lotteries, private sector and international donor funding amongst others.
- 9) It is accepted that there will be consequentials following the finalisation of the NSRP. These will be considered within the prescripts of the adopted resolutions of the Indaba.

- 10) All role-players in sport and recreation commit themselves to the implementation of the NSRP and will align all their strategic plans, constitutional, administrative and technical focus areas accordingly.

We, the signatories of this Declaration, hereby commit to working in partnership with each other to realise the resolutions in this Declaration and implement the National Sport and Recreation Plan.

Duly signed on 22 November 2011 by the following delegates of the Indaba:

Minister of Sport and Recreation:

Mr F.A. Mbalula

Deputy Minister of Sport and Recreation:

Mr G.C. Oosthuisen

Director-General: Department of Sport and Recreation SA:

Mr Alec Moemi

MEC for Sport, Recreation, Arts & Culture:

Eastern Cape Province:

Ms X Tom

MEC for Sport, Arts, Culture & Recreation:

Free State Province:

Mr D Kgothule

MEC for Sport, Arts, Culture & Recreation:

Gauteng Province:

Mr L Maile

MEC for Arts, Culture, Sport & Recreation:

KZN Province:

Ms N Sibhidla

MEC for Sport, Arts & Culture: Limpopo

Province:

Dr H.J. Mashamba

MEC for Culture, Sport & Recreation

Mpumalanga Province:

Ms S Manana

MEC for Sport, Arts & Culture: Northern

Cape Province:

Ms P Williams

MEC for Sport, Arts & Culture: North West

Province:

Mr P Chauke

MEC for Culture Affairs & Sport: Western

Cape Province:

Dr I Meyer

SASCOC President:

Mr Gideon Sam

CEO/Secretary General SASCOC:

Mr Tubby Reddy

The hpc goes international



Mike English, Chief of Sport Operations, United States Olympic Committee, President ASPC

It is with great pleasure that I am writing to extend my sincere gratitude to Toby Sutcliffe for his leadership role as Africa's continental vice president for the Association of Sport Performance Centers (ASPC). This group is made up of representatives from Oceania, Africa, America, Asia and Europe. The ASPC origins started in 1999 with the culminating effort of several key individuals from around the world who were in charge of Training Centers within their respective countries. The main purpose of the group was to establish the creation of an international association in order to put in common opportunities that will help lead efforts in sharing experiences and knowledge while respecting the autonomy of each respective Center. Several guiding principles have been implemented to ensure that the efforts of the ASPC would lead directly to the benefit of athletes and help to increase the operating capability for its member centers. Membership, since 1999, has grown substantially and today over 56 countries and their respective Centers are within its fold.

In April of 2010, America's continental representative, Tracy Lamb (Director of the Olympic Training Center in Chula Vista, California) and I had the distinct pleasure of visiting South Africa and attending a planned ASPC Board of Directors meeting hosted in Pretoria. As first time visitors to the continent of Africa, the culture, people and history was positively stunning. Even more impressive were the Training Center facilities and staff that we met while visiting multiple Centers within South Africa. The high caliber of programming and outstanding organization capability we observed is truly among the best in the world.

One of the primary goals of the ASPC is to bring value add to its existing membership. Some of the strategies identified to help deliver this value are through the use of increased resources, open communication and staff exchanges. In an effort to refine and facilitate an intended larger programme involving multiple countries, several pilot exchanges have already begun. One of these exchanges recently occurred between Tracy and Toby's Centers with the visit of Karl Klein (Executive Chef, Chula Vista, California) to the Pretoria Center. Karl is a critical member of Tracy's leadership team whose duties as the Executive Chef for Chula Vista directly impacts the nutrition and feeding of thousands of athletes who train at the Center annually. Nutrition, and its importance to the development and fueling of athletic achievement, has become one of the rapidly expanding programs within the United States Olympic movement. Nutrition education is applicable worldwide and the sharing of best practices will certainly help to increase athletic preparation and foster lifestyle changes that help

to influence healthy living for families and friends connected wherever that might be. With any new programme and especially when crossing internal borders, there is a keen responsibility to have proper oversight and guidance to ensure resources are focused and goals are met. The staff exchange with Karl to the Pretoria Center garnered valuable insights and will help guide the model for long term programme development. The sharing of lessons learned information and implementation of best practices in common partnerships with the respect and care of those involved are exactly what was intended with the creation of the Association years ago.

Throughout the world there are various business models in operation on how to manage Training Centers. Distinct differences exist from country to country ranging from government control, funding, purpose and maturity of programming for those who have access and use of the Centers. What remains constant, regardless of the above, is the overwhelming need for leadership. Without question, it takes great leadership to function and excel in today's operating world of high performance Training Centers. Toby and the Pretoria Center are prime examples of the caliber of individuals and operations needed to bring about cutting edge change and future support for athletes to win at the world level. Toby's business skills, personality and commitment to excellence are critical traits that fuel the energy and passion required for any organization to win. We are extremely proud and honored to have Toby Sutcliffe and the Pretoria Center involved and playing a key role to lead the ASPC in bringing new value and direction that will positively affect athletes and Centers across the globe. While each of us strives to be a fierce competitor on the field of play the ASPC believes in Olympism and the Olympic ideals.

" A philosophy of life rooted in the balanced development of the mind, body and character, combining culture and education with a view to promoting peace, understanding, dignity, fair-play and respect for others."

From all of us involved in the ASPC we have made genuine friendships with Toby and his Pretoria team!



Board members of the ASPC that visited SA during 2011.



Accolades

2011

A Salute to the learners of TuksSport High

Text: Hettie de Villiers

The words *annual ceremony* imply a certain sense of permanence, of longevity and sustainability. In their written form as they appear on the invitation, the words *Annual Accolades Ceremony* evoke a sense of tradition, of an established ceremony passed down within the TuksSport community. But the words also suggest a measure of predictability, of the familiar, of the expected.

If this is so, then why is the annual Accolades Awards Ceremony of TuksSport High School such a surprise every year? What makes this evening different from year to year - despite a basically unchanged programme?

Maybe it was the fact that this year, for the first time, the learners of this unique high school sported the new formal school uniform, and that the obvious pride they shared in this display of uniformity and belonging, coloured the evening with a sense of solemnity. Or maybe it was the stirring *a cappella* rendition of *The Rivers of Babylon* by the choir, or the suave and slick performance of Phano Nevhutalu and his old-school back-up singers, or the contortionist-like dance moves by Gopolang Mokoka et al.

It might have been all of that, or it might simply be because the achievements of the learners of TuksSport High are so outstanding that it takes one aback year after year. Which other school, let alone a school with only 193 learners, can boast that 66 learners received Provincial Colours in their respective sports, 36 their Junior South African colours and 3 learners distinguished themselves by obtaining their full Senior National (Protea) colours - Simon Maluleka (Equestrian), Robyn Moodaly (Soccer) Rachel Sebati (Soccer).

The number of academic awards handed out on the evening was a symbolic exclamation mark to the concept of academic excellence. The race for the Dux Scholar award - an award for the most outstanding academic achievement by a

Grade 12 learner, was awarded to Natasha de Vos for a laudable seven distinctions and an overall average of 86%. Henry Swanepoel, Neil de Villiers, Boris Kulikowski, John van Duyn and Jason Stanton were worthy contenders, with a mere 2% difference in their overall averages.

Natasha, who represented South Africa at the Junior Common Wealth Games, also received the Top Achiever of the Year Award for outstanding performances in academics and sport. The Director's award for Top Achiever in Sport was awarded to Albert Janki for his exceptional triple jump performance at the Junior World Athletics Championship where he won a silver medal with a distance of 15,95m.

As tradition dictates, the names of the 12 prefects taking over the baton of leadership from the 2011 prefects were announced towards the closing of the evening. The accompanying applause as each new prefect's name was read out, confirmed the respect for and trust that the learners and teachers have placed in Thomas Zaqueu (Headboy) Cezanné Moolman (Headgirl) Pheny Marobe (Deputy Headboy), Robyn Bester (Deputy Headgirl), Amy Peens, Monique Grobbelaar, Marlett Smit, Jacob Rodewald, Craig Canham, Tevin Singh, Sibusio Mhlongo, and Marvin April.

Listing the awards and the names of the award winners, however, does not do justice to hours of training and studying and to the many sacrifices made in pursuit of a dream. But it does offer us the opportunity to acknowledge our learners and to say to them - *Well done, we are proud of you.* The Accolades Awards Ceremony ticks nearly all the boxes associated with an annual event and has indeed become a proud tradition - both in format and in purpose. But one box remains firmly unticked - it is not predictable, and will never be - thanks to the treasure chest of talents of the learners' of TuksSport High School 🏆



Toby Sutcliffe (CEO of the hpc), Albert Jankie (Sportsman of the year), Hettie de Villiers (Principal of TuksSport High School)



Hajira Mashego (SRSA), Simon Maluleka and Les Williams (SASCOC)



Hajira Mashego (SRSA) congratulates Robyn Moodaly on her Protea Colours



Debbie van Duyn hands over the Vasbyt Award to Lebo Ngobeni



Steven Ball and Amy Peens



Christo Parsons and Tian Botha



Rachel Sebati receives her National Colours from Hajira Mashego (SRSA)



Hettie de Villiers and Marlies Ross



Gopolang and the boys



Toby Sutcliffe (CEO of the hpc), Natasha de Vos (Dux Scholar), Danie du Toit (Academy Manager)



TuksSport

TuksSport Colours & Awards: 21 October 2011

The University of Pretoria once again made its presence felt in the South African sports arena – not only were Tuks athletes prominent on the world stage - winning 3 of a total of 4 medals won by South Africa, at the IAAF Athletics World Championships - it also produced the best netball player in the world and the fastest athlete in the 400mH for men for 2011.

Tuks' star athlete – LJ van Zyl broke the 11-year old SA 400m H record on 25 March with a time of 47.66 – a time he achieved twice this year - which, at the end of the athletics season, turned out to be the fastest time in the world for 2011. Tuks' Miss Netball – Erin Burger was selected the best netball player in the world at the recent World Netball Championships.

A total of 214 Tukkies athletes and officials who have been members of national senior, student, junior age group teams were recognized for their achievements including:

- 96 National representatives of whom 2 represented Namibia, 1 Kenya and 6 Zimbabwe;
- 13 Coaches and team managers accompanying senior national teams in an official capacity to international competitions;
- 20 National Federation team members of which 2 represented Zimbabwe;
- 49 National age group team members, 2 coaches and 1 manager accompanying these teams;
- 25 Students and 8 coaches/managers represented USSA sports teams;
- Most of the above as well as a further 232 Tuks athletes obtained senior provincial colours.

At the IAAF World Championships, LJ van Zyl won bronze in the 400m H, Caster Semenya won silver in the 800m and 3 Tuks athletes – LJ van Zyl, Oscar Pistorius and Willie de Beer - were instrumental in Team SA winning a silver medal for the 4 x 400m relay for men.

Twenty-two Tuks athletes and 7 officials represented the USSA team at the World Student Games in China. One of two gold medals won by Team SA, was in the 4 x 100m relay for men, with two Tukkies - Hannes Dreyer and Willie de Beer prominent.

Individual Awards

Student Sports Administrator of the Year

Kennedy Haraseb (SSC)

Administrator's Award

Sollie Barnard (Chairperson : TuksCricket)

Coach of the Year – Individual sport:

Liz MacKenzie (Squash)

Coach of the Year – Team sport

Craig Fulton (Hockey)

Newsmakers of the Year

Oscar Pistorius (Athletics)

AB de Villiers (Cricket)

Sports team of the Year

TuksRowing Men's VIII

Student Sports Club of the Year

Rowing

Student sportsman of the Year

Willie de Beer (Athletics)

Student Sportswoman of the Year

Vuyisanani Mangisa (Hockey)

Sportsman of the Year

LJ van Zyl (Athletics)

Sportswoman of the Year

Erin Burger (Netball)

Sports Club of the Year

Athletics



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TuksSport



Erin Burger - Sportswoman of the year (Netball)



Lizz MacKenzie Sport Coach of the year



TuksSport Administrator of the year
Sollie Barnard - Cricket



TuksSport Club of the year - Athletics
LJ van Zyl, Danie Cornelius (Manager: TuksAthletics), Erika Kleynhans (Captain), Len Claassen (Chairperson) & Willie de Beer



LJ van Zyl - Sportsman of the year (Athletics)



TuksSport Student Administrator of the year.
Prof Annel van Aswegen & Kennedy Haraseb



Sports team of the Year - Rowing
Front Row Left to Right:
Lee-Ann Persse, Coreen Walstra, Klaudia Gebert, James Thompson
Back Row Left to Right:
David Hunt, John Smith, Lawrence Ndlovu, Lawrence Brittain



TuksSport Student sportswoman and sportsman of the year Vuyisanani Mangisa (Hockey) and Willie de Beer (Athletics)



TUKS MARATHON CLUB

Prof Vollie Spies: Chair: Tuks Marathon Club

The Tuks marathon Club forms part of TuksAthletics at the University of Pretoria. The club experienced a very successful year. One of the highlights of the year was the fact that BestMed came on board as the main sponsor of the club, meaning that they would also be the main sponsor of the 21/10/5/1 kilometer races that took place on 19 February 2011. The BestMed race was the first in Pretoria that included a 1 kilometer race for families as part of the programme of the day. The idea was to motivate athletes to bring their families with, to promote wellness in families and to expose them to the culture of the sport. This race has the potential to become the biggest road race in Pretoria.

Although more than 10,000 athletes participated in the race, it was also highlighted by the participation of the Vice-Chancellor of the University of Pretoria, Prof Cheryl De La Rey, who ran the 10 kilometer race and is a registered member of the club. Without doubt her participation confirmed the importance of, but also the special atmosphere in the Tuks Marathon Club.

BestMed signed a sponsor contract with the club for the next three years to support the club to become one of the leaders in the development of middle and long distance athletes in South Africa. One of the future dreams of the club is to start a development programme to improve the quality of its athletes. A

big thank you goes to BestMed, in supporting the club to expand its goals. The club consists of about 500 members, including the middle distance athletes that form part of Field and Track in the Tuks Athletics Club. The club has a good track record regarding participation in the Comrades as well as the Two Oceans Ultra Marathon every year. Approximately 70 athletes register for each of the races every year. Several athletes received Bill Rowan, as well as silver medals in the Comrades. Some of the women athletes finished amongst the first 10 athletes in their categories.

The Marathon club is looking forward to a spectacular race that will take place on 18 February 2012, with BestMed once again the main sponsor. The club wishes to thank BestMed for their commitment and trust in forming the partnership and to take their brand to the road running families in South Africa.



Prof Vollie Spies (Chairperson: TuksMarathon) presenting the Vice-Chancellor & Principal, Prof Cheryl de la Rey with her club vest.

International Golf Challenge won by Tuks

The Golf club of the University of Pretoria (TuksGolf) has had international relations with the University of St Andrews (Saints) for more than 15 years. The University of St Andrews - 600 years old this year - annually presents one of the top student golf tournaments in Europe - the "Boyd Quaich Memorial". The University of Pretoria has been participating in this tournament for 15 years. The idea of an annual "Tuks - Saints Golf Challenge" stems from the longstanding golf relationship between the two institutions - with Tuks hosting the first challenge.

The tournament was played over four days from 13-16 September at the Pretoria Country Club, based on the format of the Ryder Cup. The first challenge was quite unique in the sense that both teams consisted of ladies and men.

The TuksGolf team - enjoying home ground advantage - really made their presence felt by clinching the match with one day to spare. Notable performances by the Tuks students were Stefan Rall and Werner van Niekerk posting a score of 61 in the betterball and Stefan Rall and Nobuhle Dlamini - a lady/man combination - also posting 61 the next day in the betterball - world class scores that can

compete with the best in the world. The final score was Tuks 9.5 Saints 6.5.

The next "Tuks-Saints Golf Challenge" will be played in 2012 at the home of golf - St Andrews Golf Club in Scotland.



Teams

Front - left to right: Nobuhle Dlamini (TUKS), Werner Ferreira (TUKS), Nicole Garcia (TUKS), John Ferreira (TUKS), Frederick Edmunds (SAINTS), Werner van Niekerk (TUKS)

Middle - left to right: Gemma Bradbury (SAINTS), Ashley Smith (SAINTS), Cole Sedgwick (SAINTS), Matthew Wheeler (SAINTS), Joseph Marchbank (SAINTS)

Back: Stefan Rall (TUKS)

INSIDE NEWS



Botswana National Football Team



Steve Matlou and referees



Cheltenham Ladies College



hpc at the Unica Market: 28 October 2011

2nd Annual Speedo Coaches Conference

TuksSwimming and the University of Pretoria supported by the American Swimming Coaches Association (ASCA) hosted the 2nd Annual Speedo Coaches Conference at the High Performance Centre, University of Pretoria (hpc) from 21-23rd October.

This year saw key note presentations by two world renown American swimming Coaches and professionals, namely Mr. John Leonard (Executive Director of ASCA) and Mr. Glenn Mills (Co-founder of GoSwim), both with numerous years of coaching and swimming experience.

Swimming coaches from around South Africa were joined at the hpc by coaches from fellow African countries such as Namibia, Zambia, Botswana and Mozambique, making this conference truly African.

During the course of this conference, endorsed and help driven by the Swimming Coaches Association of Africa (SCAA) and its chairperson, Coach Igor Omeltchenko, a discussion forum was held by the coaches present to assist in driving the newly formed SCAA. Great leadership and advanced was shared by Mr. John Leonard, whom is an international specialist in this field.

Overall the conference was received well by all attendees and with most already looking forward to next year's event where the aim will be to have USA Olympic coaches endorsed by ASCA coming out to share their experiences with our South African and African coaches.

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Text: Lester Mills

Who'd wanna be a referee... damned if you do, damned if you don't. I think it was the current South African Rugby Union head of referees Andre Watson who once pointed out that he felt refs were often so maligned because they were the only ones who didn't care who actually won the big game. Indeed, the point was brought home just recently when following much praise and backslapping for his competence during the World Cup, South Africa's top ref Craig Joubert fell foul of the French.

They, you see, were miffed over the way he had handled the Rugby World Cup final between them and New Zealand. Richie McCaw, according to the French, was allowed to get away with murder on the ground in stealing, spoiling or slowing down the possession they were trying so hard to win.

The issues has to all intents and purposes has been swept under the carpet by rugby's authorities. Surly though, the French have an argument. The losing margin – one point – was the slimiest possible so a single decision by the referee certainly made the difference. Of course, how can we forget Mr Bryce Lawrence in this debate. Most Springbok fans will unequivocally tell you he, and not Australia, single-handedly beat the Boks during that ill-fated quarter-final in Christchurch.

In that case, South Africans felt that Aussies flank David Pocock was allowed to cheat them out of victory. Again, a close score, a player and a referee making the difference. Around the braaifires, fans are in no doubt that it's the ref who's cheating. Officially, no such word is mentioned. Refs are human, they're just doing their best and mistakes are made.

Certainly the way that Craig Joubert was praised by the World Cup final winners New Zealand and criticised by the losers, France, does bring the argument into focus. It seems as if a rugby referees performance rests on which point of view you have. It's this time honoured scenario which does

rather undermine any argument for or against the performance of any single referee at any level.

If the one side says the ref was great because they won and the other say he was rubbish because they lost, it leaves us exactly nowhere in appraising his performance does it? Still, following the quarterfinal debacle against Australia, Prof Tim Noakes, a South African professor of Exercise and Sports Science at the University of Cape Town and a founding member of the International Olympic Committee's Olympic Science Academy and also President of the South African Sports Medicine Association, was so incised at what he had seen that he wrote an open letter to the International Rugby Board (IRB) suggesting some match fixing was going on in that game.

As you can guess, there has been no official reply to these suggestions, suffice to say a seed has been planted, by a luminary such as Prof Noakes. To him, the South Africans had such an edge in class, fitness and strategy that they simply could not lose that game against the Aussies, yet they did. There was definitely something fishy going on here suggested the good professor.

How easy would it be for some shady character to get to a ref with a bribe of blackmail? A rugby referee certainly has the power to manipulate a game in the favour of a certain team.

An outrageous thought? Well, we all felt the same way about cricket before Hansie Cronje came clean and look what has happened in that game since then. Here's hoping that those in charge of rugby and more importantly referees, don't simply brush aside the notion of match fixing in rugby.

It's something that has to be guarded against at all costs and even if there is no indication at this time of any such thing happening in the game, it doesn't mean it won't happen in the future. On the face of it, rugby already has a pretty good system going when it comes to using technology and the system of keeping referees accountable looks pretty good. However, the rugby powers that be would do their image a world of good should they be seen to take proper action against poor referees.

Bryce Lawrence, for example, needs to be removed from the international panel until his competency can be proven 🏏

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