



Soft Tissue Therapy Magazine

## Beijing 2008

The agony and the ecstasy

### **Soft tissue therapy at the Games**

What is it like to work there?

### **Where are we going?**

Geoff Walker shares his thoughts

### **AFL hamstring condition**

How to treat it

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An international perspective



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## Editor's note

**T**he Beijing Olympics are upon us and years of preparation are coming to fruition. For the fortunate ones who remained injury free and achieved their potential, they will be heading off to the Games. Many won't make that plane however. Not quite good enough or their bodies failed to support their ventures. Please spare a moment for those athletes that didn't quite get there – there are many of them and they deserve our thoughts.

For the Australian Soft Tissue Therapy team, I wish you every success. It is an honour to represent our industry and Country at the Olympics. The days are long and often arduous but the reward is an environment that few get to experience. Note however that the emotions are a rollercoaster ride that is impossible to get off. Be ready for the greatest glory and deepest agony – for athletes achieving more than expected and those that trip on the bus getting off at the village, and having to go home. Absorb the achievements and bear the disappointments.

Australia has approximately 21- 23 Soft Tissue Therapists at these games. The group was selected almost two years ago now – this timeframe representing the long-term commitment you must have to eventually make a major games. All are highly experienced and have incredible skills developed around the individual sports they service. Their ability to provide competent treatment is second only to being able to work within a sports medicine team. The latter of these two probably more difficult to the first – as the opportunity to work within a sports medicine team is extremely limited. For those that have the opportunity, utilise it well and cherish the experience.

This edition of the STT eMag is the first to be produced by publishing company FlapJack Custom Publishing. I hope the new format and editing is to everyone's satisfaction. We welcome our international friends and their input into this media. As usual, we are guided by your comments and feedback. Please don't hesitate to contact us on [admin@softtissuetherapy.com.au](mailto:admin@softtissuetherapy.com.au)

*Yours in Soft Tissue Therapy,  
Brad Hiskins*



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#### Soft Tissue Therapy eMag

Phone: 0418 60 70 41 Fax: 02 6251 9369  
PO Box 3264, Belconnen ACT 2617  
e: [admin@softtissuetherapy.com.au](mailto:admin@softtissuetherapy.com.au)  
w: [www.softtissuetherapy.com.au](http://www.softtissuetherapy.com.au)

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Please contact FlapJack regarding any advertising enquiries.

**Freya Purnell**  
Publisher, FlapJack Custom Publishing  
t: 02 9929 8310  
e: [advertising@flapjack.com.au](mailto:advertising@flapjack.com.au)  
w: [www.flapjack.com.au](http://www.flapjack.com.au)

# On the road to the Olympics

Brendan Cole is a Soft Tissue Therapist working at Clinic 88 in Belconnen, Canberra. He lives an extraordinary life as a fantastic therapist, an elite athlete (Australian 400 metre National Champion) and a budding DJ. Cole has treated in between training sessions to fund his Olympic ambitions for many years now. Being on both sides of the treatment bench, Brendan is in a unique position to deal with elite athlete care. Currently, he has put his work aside to follow his dreams. With little to no support or funding, Brendan gives us this amazing insight into the trials and tribulations of a young athlete striving for Olympic qualification.



**S**leepless nights, amazing scenery, moments of ecstatic victory, mindless boredom, language and cultural barriers, bad food, kind strangers, injury and disappointment... all examples of the encounters on the road as a track and field athlete.

In this, the month of my birthday, I have run on 16 different athletics tracks, been on more planes than I can count with my hands, have learned to say hello and thank you in four different languages (five if you include Cockney), seen the sun rise and set in both hemispheres, and I am far from finished my travels of striving; higher, better, faster, stronger. It's a lucky thing I don't mind the photo on my passport.

After competing in Japan and China earlier this month, I am now based at a training centre in the Midlands of Britain – Loughborough – which will now be my sunny and completely rainless home for the next two months while I head off most weekends to compete around the European athletics circuit. I have just had my first race over here in Geneva, Switzerland. This will be the first of, I hope, many races over here as I attempt to make the most of a thriving and extensive athletics scene. Compared to Australia, anyway...

Sometimes I feel there is an uneducated public perception of an elite athlete off on tour; staying in five-star hotels as they travel the world, subject only to the adoration of avid fans and unfailing media attention. As much as I do love travelling and racing and would never have it any other way, I feel I am in a good position to shed some light on the average elite athlete (is that an oxymoron?) and his ups and downs abroad.

I must also admit here that I am in a reasonably unique position. Unfortunately this year I do not have the pleasure and assistance of travelling with my coach, due to

funding and logistical issues, and my fabulous training partners are also back home working hard as slightly younger athletes hoping to one day fly the Australian colours (some later this year at the World Juniors) and make their coach and parents proud. So, for better or worse, I am alone on my journeys this year, which puts me in a slightly different environment to those who take on these voyages in teams and groups.

But please don't let me thrust any negative connotations upon you. I think the reason I chose athletics as the sport I wanted to work hard at was almost completely due to the unrivalled elation of achievements as an individual. The other day when I was in Geneva amongst a track full of foreigners, the realisation that I was on the other side of the world in the peak of my physical fitness (and making the most of it), and doing something I love was, I can honestly say, a lot more liberating than it was frightening.

I think the biggest and most significant attitudinal and emotional change being far away from home is the insecurity and

instability of the platform on which you tend to ride around from day to day. It seems to be more volatile than the grass roots back home that keep your feet on the ground; the highs seem higher, and the lows can knock you on your arse if you are not ready for them. But as I said, it's what I love about this sport, and hey, who needs plush airport lounges and bottles of Evian water on call anyway?

On Wednesday last week, I had not one athletics meet organised for the 8-10 weeks I am over here. 48 hours later, I was in the middle of a four-hour wait on an Easyjet plane (that's right, I named names!) on my way to a country whose language I had momentarily forgotten, wondering if I will get a chance to buy some Swiss chocolate in the 30 hours I was spending there. Three weeks ago I was faced with the very ugly situation of being stuck on a toilet in a call room in China with no toilet paper to be found, a bodysuit between my knees and no-one around. I won't tell you how I got out of that one.

I would love to tell you I loved and love every minute of it, but the fact is that while I

am in good spirits at present over here, there's a good chance I could again fall prey to the events of last year, where I tore my adductor before my second race. This placed me in the embarrassing and intensely disappointing situation of discussing with my coach whether it's worthwhile staying over here and trying to work out the injury or going straight back home with my tail between my legs, telling my parents the money I had borrowed from them to come and compete on the illustrious European athletic circuit was for nothing.

Fingers crossed though, as I prey to the athletic Gods (I believe Ed Moses is one of them), as I eat well –but not too much, rest when I can – but not too often, train hard –but look after myself, be positive – but not cocky or unrealistic, and above all have fun right? But don't go crazy. Wherever I may be between the too-often visited polar extremes of elation and despair and asked how I am, my reply is always the same: "I'm just living the dream..."

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# Getting ready for THE GAMES

STT eMag editor Brad Hiskins caught up with world champion hurdler Jana Rawlinson and distance runner Benita Johnson to hear about their preparation for Beijing 2008 and the role soft tissue therapy is playing in the lead-up to the Olympic Games.

## Jana Rawlinson

### **BH: What is your current training load?**

JR: In early January I suffered a toe injury, and have not really recovered as quickly as I hoped as it affected my biomechanics and I am now getting niggles all over the place. That's typical for an athlete however – always a niggle, hence why I have a medical team around me. So I'm not at 100% training load at the moment but getting there.

### **BH: What are your main goals for this year?**

JR: It's roughly three months until the Games and I have seven races from now till then. My ultimate goal is to obviously bring home that elusive medal from Beijing. With the January setback and consequential loss of training, we have fallen behind schedule and have had to re-evaluate our lead-up to the games. Not as perfect as I would like it to be, but again, such is the life of any athlete. These adversities must be overcome and I'm determined to do so. Top four is my goal in Beijing; across the line first is my dream.

### **BH: Where do you do most your training?**

JR: We're never in the same spot for too long. We are currently in the US and leave for the UK in a fortnight, and then head to Japan three weeks before the Games.

### **BH: What is your medical support?**

JR: I have had quite a few soft tissue therapists in my career, depending where I'm situated/training. Currently Brad Foster is looking after me at home, but I have been away for some time so I'm sorely missing him.

### **BH: How do you use soft tissue therapy in your weekly training plan?**

JR: I believe elite athletes should receive a minimum of one, if not two, soft tissue sessions a week. I have one physio or chiro appointment and one massage a week plus I do a lot of self rehab, roller, thoracic rack, neuro 4, bone stimulator, laser pen and lots of icing. On average I spend no less than three hours an evening doing self-assessed rehab and strengthening exercises, but I am a very injury prone athlete so I have no choice.

I feel a soft tissue therapist/sports massage therapist's role is one of the most important in my team. Physio is more reactive, whereas Brad, my current soft tissue therapist, is more preventative and proactive. He often comes over the night after my hardest session and deeply flushes my legs. He knows my muscles so well he can tell me if there are any anomalies. Often with soft tissue therapists, they can feel something I haven't yet felt in training, and can deal with it before it rears its ugly head!

### **BH: What type of soft tissue therapy works best for you or do you get different types of work done depending on your condition?**

JR: Post-hard sessions my husband flushes my legs. I used to get a therapist to do this but I don't have the time now being a mum. Post-race flushes are essential. Injuries also require larger amounts of treatment to keep scar tissue low and surrounding muscles supple.

### **BH: What is your advice to young therapists working with athletes? Any dos and don'ts for therapists?**

JR: My advice to therapists would be to remain passionate and believe in yourself as your confidence rubs off on us. Once you have a regular client, take notes on



their muscle tone and so on as you can save an athlete's season if you spot something irregular.

Do: I can't stand skin polishes so right from the beginning establish the depth required. Athletes may like it if you're gentler, but I can guarantee if they don't see the results that a deep tissue massage can give, they won't come back.

Don't: Ever think you have learnt enough – keep up to date.

*Note: At the time of press, Jana Rawlinson had been forced to withdraw from the Beijing Olympics, due to ongoing injury problems following surgery on her toe. Rawlinson was devastated at this premature end to her Olympic campaign.*



### **Benita Johnson**

#### **BH: What is your current training load?**

BJ: Running between 150-170kms per week – this includes quality sessions on Tues/Thurs/Sat, a long run of 21-26kms on Sunday, easy runs Mon/Wed/Fri including fast strides on the track, and circuits and gym on these days.

#### **BH: What are your main goals for this year?**

BJ: Obviously the Olympics. I'll compete in either the 10km or marathon – I'll decide in June. Up until then, the training is the same. I have my goals in mind for what I want to achieve in Beijing – it's all about getting the process right then the result will take care of itself.

#### **BH: Where do you do most of your training?**

BJ: Mainly London. I live in Hampton Wick which is near the Thames River, Bushy Park, Richmond Park, Home Park and Wimbledon Common. When I'm not in London, I'll be at altitude training camps in either Falls Creek (in the Australian summer), Flagstaff (May/June) and St Moritz (July). For my downtime, I'm at home in Melbourne (end of season, so start of our summer)!

#### **BH: What is your medical support?**

BJ: My husband treats me and if he's working or away, I see a physiotherapist and soft tissue therapist at Pure Sports Medicine in Kensington (London).

#### **BH: How do you use soft tissue therapy in your weekly training plan?**

BJ: Soft tissue therapy is vital in my weekly training plan – I will get treatment three times a week on easy running days, as well as after races.

#### **BH: What type of soft tissue therapy works best for you or do you get different types of work done depending on your condition?**

BJ: I get very heavy treatment (actually as hard as the therapist can go!) through my legs twice a week, my shoulders once a week and pelvic work once a week plus stretches (usually pnf) after all treatment sessions.

#### **BH: Has the soft tissue work you receive changed as your career and experience with soft tissue work has progressed? That is, do you prefer certain types of work these days?**

BJ: I think it has definitely changed over the years, for the better. I think soft tissue therapists these days are able to do much more for the athlete rather than 'just a

rub'. They are able to cater for your every need, whether it be deep tissue massage, stretching, pressure point massage – really whatever suits the particular athlete. In my experience, I respond well to very deep tissue work and lots of it! Soft tissue therapists are certainly the top of the heap with respect to their 'hands on' skills. No matter how much you know or how smart you are, the 'hands on' skills are the pivotal part of a good treatment in my eyes.

#### **BH: What is your advice to young therapists working with athletes? Any dos and don'ts for therapists?**

BJ: Ask the athlete first the areas of their body which may take longer or less time to treat so you can plan your hour to give them the best treatment possible for their needs. Always ask the athlete during the first 10 minutes of treatment – "am I going hard enough?" Don't do anything that you're not confident doing – even if the athlete asks – for example, if they ask you to manipulate their back and you don't really know how. Don't be afraid to say no, it is better this way than to hurt them trying to please them. And talk to the athlete if they're chatty. Sometimes for me, it is easier to get through a tough treatment if I'm talking to someone – takes away some of the pain!

# What it takes to treat at the Games



Being appointed on the Australian team as a soft tissue therapist for the Olympic Game is a unique and exciting experience. But what does it take, who gets to go, and how can you work towards being chosen? Brad Hiskins, Head of Service for Soft Tissue Therapy for the Australian team at the Beijing Games, has the answers.

## Soft Tissue Therapy and the Olympic Games

For a number of Olympics ranging from the early 1900s to the 1970s, the Australian team travelled with one 'masseur'. For instance, at the Los Angeles Games, our industry was represented by one therapist, Mike Kewly. Four years later in Seoul, two therapists, Barry Cooper and Mike Kewly flew the flag. To this day, Barry is still recovering, describing the event as "absolutely gruelling", with the two of them seeing approximately 720 athletes in two weeks. It was only in recent Games that our representation jumped to seven in Barcelona, 17 in Atlanta and 22 in Sydney. Athens saw us represented by 23 soft tissue therapists, treating the large Australian team of 482 athletes.

## The IOC's involvement in determining Australian medical numbers

The number of therapists appointed (this includes all medical positions of sports physiotherapy, sports physician, nutrition, and psychology) are determined by the number of athletes the Australian team qualifies to attend the games. Hence our overall

medical representation in Athens was down on the Sydney Games as the host nation has automatic qualification into all events and therefore maximum competitors.

Once the IOC knows how many athletes your country has qualified, it uses a mathematical process to determine how many 'other accreditations' you are able to take. For instance, if you qualify 500 athletes the IOC will throw that number into the equation and come up with (for instance) 272 officials to support the team.

## The AOC's involvement in determining medical numbers

Once the IOC has reckoned this number of officials, it is passed on the Australian Olympic Committee (AOC), which then decides via another mathematical process, which sports can have 'how many officials'. The equation is quite simple: the bigger the sport (in numbers), the more officials are allocated.

The officials include administrators, coaches, medical staff (including sports scientists), video personnel, vets and so on. Once the AOC has made their recommendation, the sports are then made

aware of their allotment of officials. Then it is up to each individual sport to choose what they believe is the most appropriate team (coaches, admin, medical and so on) to support their athletes during the games.

## The sport's involvement in determining medical staff numbers

Let's take rowing as an example. They may be given 18 officials to attend to 48 qualified athletes. From this figure the AOC, in consultation with rowing, recommends five positions to medical staff. The five medical position allocations are then decided upon from within rowing. This involves deciding how many of each type of service provision they want. For example, rowing may decide to take five sports physicians only. They alternatively may decide to take one sports physician, two physios, one soft tissue therapist (STT) and a psychologist, or whatever they determine as the most appropriate way to service their athletes. On occasions, the sport may even sacrifice a medical position for another coach. In the end, rowing will decide upon the make up of the medical team and alert the AOC of its members.

This number of medical personnel will obviously differ according to the size of each sport. The larger sports (rowing, athletics, and swimming, for example) will have as many as seven medical positions appointed and the smaller sports (pentathlon and boxing, for example) will receive none.

From the above you can see that soft

tissue therapy numbers may not be a direct reflection of the sport's want or need for our service provision. The IOC, AOC and individual sports are bound by limited accreditations that depreciate all areas of service provision.



### **How do soft tissue therapists become nominated to go to the Olympics?**

#### ***Providing service to individual teams***

Some two years before the Games begin, each and every sport is asked to nominate their preferred service providers. Even those sports that are predetermined to be too small to be allocated medical services by the AOC, are still obliged to nominate. This is the only way service providers can be nominated. Service providers cannot apply directly to the AOC for nomination. Sports can nominate as many service providers as they wish.

The next process is a waiting game. No medical service providers are able to be accredited (except the Heads of Service) until athlete numbers have been finalised. Then, as described above, the IOC will determine the amount of officials we can take, and then the AOC will determine how many officials each sport can take. Depending on medical allocations, each sport will then choose from the service providers they originally nominated. For example, swimming may initially nominate nine STTs and then only take three of those to the games – depending on their allocated number. This is how therapists get to service individual teams at the Games.

#### ***Providing service at headquarters***

Once individual teams have filled their medical allocations, the remaining therapists (those that were originally nominated by sports but not eventually chosen), can then

be chosen to provide service at headquarters. It is up to the Head of Service of STT to decide who will provide service at HQ. The number of therapists chosen is determined by the AOC. Again it is a mathematical process, basically determining how many athletes will be without a certain service. In the case of Athens, 15 STTs were directly taken by sports. It was decided that 8 STTs were to provide service for the remaining 285 athletes with no direct STT service provider.

### **What do HQ therapists do?**

The headquarters staff are there to service those sports/athletes that do not have any direct medical service provision. They are also there to help sports that cannot service their entire team with the medical personnel they were allocated. HQ may also be asked to help sports that have service providers struck by illness and similar.

Although HQ staff are most likely to see the sports of smaller numbers, this is not always the case. Some sports sacrifice a direct medical service provider and utilise the headquarters service provision instead. This allows them an extra accreditation to take another person (like a second coach or video person for instance) on their direct team.

Most of the large sports also find that their allocation of therapists by the AOC is rarely enough and hence the HQ staff will service the 'extra' athletes that individual sports cannot service.

Headquarters also acts as the 'Head of Service' for each discipline. These people include the Chief and Deputy Medical Director, Head of Service for Soft Tissue Therapy and Physiotherapy. Well before the Games start (some 20 months), these people have the arduous task of sorting through the sports nominations (for medical staff) to ensure quality therapists have been nominated (correct qualifications, experience etc). Heads of Service will attend numerous AOC meetings and teleconferences in preparation for the games. Everything from CV perusal to equipment, clinic logistics, arrival times, medical policies and so on are dealt with. Once at the games, the Heads of Service act as the coordinators of their particular service.

### **So what do you need to do to make the Australian team?**

For people wanting to make an Australian

Olympic team as a soft tissue therapist, it should be noted that this process takes place some 24 months prior to the Games, so a long-term affiliation with an Olympic sport is imperative to making the team. And quite simply, the criteria state that therapists need to be travelling and working regularly with an Olympic sport for a number of years prior to the Games to be eligible.

Therapists also need their qualifications, membership of a recognised association and membership of Sports Medicine Australia.

### **What is the Polyclinic?**

The Polyclinic is an IOC medical set-up that allows 'volunteer' therapists of all descriptions and any country to provide service to those countries not able to provide their own.

This was available at Barcelona, Atlanta, Sydney and Athens. It is noteworthy, however, that the Polyclinic is nothing to do with the Australian team. It is completely separate. People involved with the Polyclinic are volunteers that do not necessarily have to have had any experience at all with sport and do not meet the criteria that Australian representatives need to meet.

### **The word 'Olympic'**

It is extremely important to note that using the word 'Olympic' in any advertisement, ANY advertisement, is completely illegal. If you have represented the Australian team at any Olympics, you may use words such as 'attended Atlanta Games' or similar. This most definitely applies for all Polyclinic representatives as well.

### **Athens 2004**

On arrival in Athens, it was immediately evident that the Greeks hold the Olympics close to their heart. The words 'welcome home' were inscribed everywhere and also used in the opening ceremony speech. The history, the monuments, the ancient stadiums and the eerie feeling of Olympic times past were inescapable.

The village itself was based around ancient relics. Numerous water wells dating 2000 years were uncovered during the building of the village. 'Hadrian's Aqueduct' was stumbled upon and due to its incredible importance to Greek history (the aqueduct supplied Athens with its water), the aqueduct

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was completely preserved. Some sections of the aqueduct were even housed in glass domes for preservation. In all, the village was an amazing feat with 18,000 permanent beds. A complete city.

The Greeks certainly achieved well beyond what we were made to believe: a brand new, state-of-the-art airport; a massive six-lane freeway through the heart of ancient Greece; an underground railway system; the village; the amazing, permanent sporting venues.

### The events

Australia's outstanding achievement at the Athens Games is testament to our sporting culture. Everyone played a part in the outcome. From the government's financial backing to the person sitting at home supporting on television, everyone played some role in the eventual success. Our love of sport and the sense of national pride that sport creates is almost unique. What probably sets us apart from most other countries is our ability to participate and support just about every discipline. Many countries are dominated by just a few sports whereas Australia would surely have a marbles team if it were introduced. Quite simply, we are obsessed by it. And how it showed.

There were too many success stories to choose a favourite. In fact many of my personal favourites were people who didn't even win medals. Being involved with elite sport for many years gives an insight into the reality of such an event. Personal achievement by athletes can often outweigh the overall success in competition. This, however, is poorly depicted by the media and these quite achievers remain unnoticed. Furthermore what is important to remember is that for every success story, there are dozens of disappointments. Heartbreak, devastation and inconsolable athletes are common, and this is just trying to make the Australian team.

### Soft tissue therapy at the Games

Typically at any Olympic Games, the soft tissue therapists work incredibly hard. The hours are long, in fact your shift never seems to start or finish; it just meanders throughout the Games. There has, however, been a concerted effort in the past three Games to allow therapists 'time off' to recuperate and enjoy the Games. Barry Cooper reminds us of the "old days" when the thought of going

to watch a sport was far-fetched. There was work to be done and you must remain by your table! Although the hours are still long, each therapist is encouraged to support a team when they can. Otherwise the HQ staff would remain in the HQ medical centre and see the entire games on television... might as well be at home!

Therapists working for individual sports have varying roles. Some therapists, such as Darien Raoch (soft tissue therapist) with shooting, are the sole providers of any medical service. Hence Darien immediately assumed a medical management role for the shooting team. Other therapists such as Vicki Eustace and Matt Young who worked with rowing, were supported by two sports physiotherapists and a sports physician, so became an integrated part of a medical team. Soft tissue therapists with the cycling team also assumed soigneur roles (feeding athletes, bike maintenance etc). Some sports focus their service provision around pre- and post-work, like swimming. The therapists with swimming would rarely, if at all, treat injuries. Therapists with triathlon on the other hand, have a mix of maintenance work (flexibility/mobility, pain alleviation, tone etc), limited recovery work (broad hand flush-type work) and quite a bit of injury management. Often the type of work done with each sport is a reflection of the injury incidence rate (for example, swimming has limited injury

incidence that stops them training whereas triathlon has plenty), the culture that the medical team has established within the sport (some sports are dominated by sports physiotherapists who completely manage injuries without any input from the STTs and other sports are much more integrated, utilising the expert skill set and opinion of each service provider), and the type of activity the sport entails (endurance vs. strength vs. anaerobic and so on). These scenarios varied throughout the Australian team, as did the role of the STT.

At HQ, the STTs, sports physiotherapists and sports physicians worked as closely as possible. This integration has improved over the past three Games. In Seoul for example, the STTs were in a completely separate building. In Atlanta, we were separated by about 60 metres and a few walls. In Sydney we managed to be situated in the same room, just separated by a curtain. In Athens we had two separate rooms but eventually treated side-by-side with the physiotherapists. This process of integration has not come easily. Lack of awareness, ignorance, political bias and even those nasty traits of ego and arrogance have had to be dealt with along the way. However the persistence of people such as Rob Granter, previous STT Head of Service for the Australian team, forged a professional rapport that carried on to Athens and will hopefully continue to grow.

This point of integration is one of paramount importance for the future of our industry. Many discussions with the sports physicians and sports physiotherapists over the past ten years has developed an understanding of our competency and unique skill set. We have been able to elude to the fact that we are trained to be primary care providers rather than recovery robots that have had a frontal lobotomy at graduation. This development must be pursued into the future. We simply can't rest on the good work of our predecessors and hope the culture of integration continues.

More open forums with the sports physicians especially need to be established. Intriguing discussions during the Games support this. Sports physicians in general are beginning to understand what type of musculoskeletal pathology they can refer to us. However their confidence in our industry is still very low. I appreciated their candidness but the conversations often left a bitter taste in

*The hours are long; in fact your shift never seems to start or finish, it just meanders throughout the Games.*



my mouth with tales of extremely poor quality understanding of musculoskeletal injuries and skill sets of STTs that they had used in the local areas. The point here is that if we put a message across to these people that we have a certain skill set and understanding, we need to be able to back it up: talk the talk and walk the walk. Quite simply, they were suggesting that our core education, although better with the introduction of competencies, is too immature and varied and it is therefore difficult to ascertain our level of knowledge from one therapist to the next. The strong suggestion was to form a postgraduate-type education system (or special interest group) that further educated a population of current STTs in musculoskeletal injuries/health with special regard to sport. Something to consider.

The second point they made, and a strong one, was our definition. Yes I know, a touchy point but one that must be debated. The doctors and sports physicians strongly suggested that the word 'massage' placed us in a category of dormancy. They suggested that a more appropriate word that more clearly defines our skill set and does not create the perception of limitation is necessary. "Massage is a technique, not the definition of an industry", was one of the comments. Moreover, they pointed out that (as eluded to above) the term 'massage' immediately conjured up a client laying face down, with lots of towels on them and a 'routine' or 'recipe' of broad-handed effleurage being applied – no matter what their complaint! To further this, they pointed out that the 'myotherapists' in Melbourne, although achieving the same or very similar educational standards as many 'remedial massage' schools, were developing a professional reputation beyond 'remedial massage', simply due to the lack of the word 'massage'. They simply are perceived as 'more professional' due to a definition, from hard work advertising that they "treat" people

and "don't massage them" and they possess the skill to assess and treat musculoskeletal disorders with a unique skill set.

These discussions began with banter about the integration of the STTs at the Olympics over the past four Games. The sports physiotherapists were among the discussions and added very similar remarks. As conversations do, the discussion ended in a more philosophical note. I sincerely hope we can learn from this.

### **The future of STT at the Games**

Our future involvement at the Olympic Games looks strong. Athletes and coaches describe our service as a 'necessity'. What we do have to consider though is that when accreditations are low, we tend to be the first service provider to be cut. This may be due to the fact that we are not perceived as being able to perform primary care duties as sports physiotherapists do or possibly because of ignorance to the benefit of prevention measures, rather than reactive injury measures. Our industry is also very poorly situated with regard to board and committee status. Hence when push comes to shove, and someone has to go, the physiotherapists and sports physicians on the board or committee aren't that likely to drop themselves. We need to find our way onto these committees and boards. We need to represent ourselves when those discussions are happening. And don't fool yourself by thinking that other industries aren't after our accreditations. They are. If we don't continue to fight each battle, then we quite simply will not have a future in this arena.

### **Recommendations**

We need to form special interest groups. Not only in sports but palliative care, hospital-based care, the ageing, osteoporosis, arthritis, systemic diseases, and so on. Our current blanket approach (STT helps everything...)

does not depict the exceptional skills and knowledge that our current members possess in specific fields of interest. These people (they may be numerous within the one field of interest) need to be supported, identified and have an infrastructure to enable them to forge working opportunities for the future of our industry. These areas need to be developed to create specialists in our industry and then advertised to the general community and other health professionals. Then the sports physicians would know where to send their 'sports or musculoskeletal injuries'!

### **Summary**

The Games are memorable, there is no doubt. The experience goes beyond just working on high profile athletes. We represent our industry. I congratulate the 23 people who did a fantastic job in the soft tissue therapy field. They worked hard, they were completely professional and they not only had a great time but furthered the growing reputation of our field as a legitimate health industry.

The therapists going to this year's Beijing Games will be:

Brad Hiskins – Head of Soft Tissue Therapy  
 Bernd Adolph – Deputy Head of Soft Tissue Therapy  
 Tricia Jenkins  
 Narelle Davis  
 Katie Pettifer  
 Tony Bond  
 Howard Arbuthnot (also Acupuncturist)

The Australian team has been able to secure a recovery gymnasium not far from the Olympic village. The gym is exclusively for Australian athletes and will provide contrast baths, recovery nutrition, a weights gym, stretching area and recovery massage. The therapists providing service there will be Stuart Hinds and Delwyn Griffith.



# Where are we going?

STT eMag is running a series of interviews with various members of the industry around the world – association presidents, prominent therapists, educators and more. This is our fifth interview and we thank Geoff Walker from Massage Time for sharing his thoughts.

## Where do you see our education in 10 years' time?

Hmmm.

Well, we can't remain competitive with our highest level of education at Diploma level. We need to be seen to be moving forward as an industry. Whether our next step forward is a degree, a traineeship, or apprenticeship-style system, we must develop graduates that are at a similar level to graduates in other healthcare modalities. Presently, our good graduates move off into other healthcare disciplines within a year of graduating because they realise that they need to 'know more' in order to compete with other healthcare disciplines. The end result is that we lose good therapists simply because they wanted to know more, and our industry couldn't offer them any more in the way of formal education.

In terms of viability, in what other industry can you begin to earn income after the first six months of training, and continue to do so throughout the entire educational process? I believe we have a very, very, unique selling point over any other healthcare provider in that respect. Earn while you learn!

Start off with a common first two years' undergraduate program, not necessarily at university, followed by a further one or two years specialising in one of a number of streams. The streams would be heavily weighted toward clinical practice and clinical reasoning. In order to be hard-wired in the healthcare system, we need credibility among our healthcare provider

peers – in politics, with health funds, WorkCover and with Veterans' Affairs. We need to demonstrate that we can hold our own in terms of education and training.

Whatever education system we adopt, it must be standardised and registered through a central body. At present, the inconsistent nature and slick delivery by the 'drive-thru' educational institutes undermines and weakens our entire industry.

## Where do you see our research in 10 years' time?

In 10 years' time, our industry will have a substantial database of terrible, poor, fair, good, very good, and excellent research. The excellently designed and conducted research will form the foundation for up-and-coming therapists to model their own research from. The terrible research will serve as wonderful examples of what budding researchers should not do.

With this continually accumulating wealth of knowledge, we, and the entire healthcare profession will begin to re-discover that simple and effective hands-on treatment is far more efficient and economical, than expensive and cumbersome machines, gadgets, pills, and scalpels. I believe that in the near future people will force a shift to a more commonsense consciousness regarding their healthcare.

Whether this research comes from associations, university, private funding, or comes entirely from within our own clinics, remains to be seen, but it is certain that

whoever undertakes this research will be bold, creative, and true visionaries.

## What areas do we need to collect data on within the next ten years to objectively form our future?

Several aspects to examine here. I'd start with collecting data concerning people – our clients – to find out why they come into our clinics. Personally, one of the most interesting responses I have ever received when I asked a client why they have their regular fortnightly treatment was... "I feel younger after a treatment". That is a very powerful statement. We need to know what drives people into our clinics.

Specifically, we need to look at the overall number of people who now call their MT/RMTs table home, rather than another healthcare provider's. We need to collect data on our consumers' preferred healthcare modality, then examine the who, what, where, and how questions related to each.

We need to work out how we, as practitioners, define what we do, and where we believe we fit into the healthcare model – that is, clinical treatment vs Reiki. We desperately need to identify the different therapists in our industry. Where do they work? How often do they work? What their qualifications are? Who they treat? What type of table they have? Do they use oil? I'll stop here or I'll go on forever!

## Where do you see our job growth in ten years' time?

Wow. Where can't we go? Richard Branson

of Virgin fame surprised me by including therapists on aeroplanes – I hadn't thought of that one. But, in reality, we really can take our skills anywhere.

I'd really like to see the relaxation side of the industry shaken-up – that is, we need experts in the field. Relaxation and stress management are massive industries! The hair and beauty industry has hijacked this lucrative market from our industry. They know and realise people will pay big dollars for stress management and relaxation – and, they do an OK job of it – we would, could, do it oh so much better. Slopping oil all over someone with incense burning is about 10% of a really, truly professional stress-relieving massage treatment. Imagine if our industry had a post-graduate educational program that developed experts, specialists, in the Relaxation and Stress Management.

...and how about job growth areas like: sports soft tissue therapy (STT), palliative care STT, clinical STT, workplace STT,

relaxation STT, head and neck STT, neural STT, or any number of distinct specialties. Wow – it really is a very exciting list to write, and to think about the possibilities.

### What association format would you like to see in ten years' time?

I'd love to see an association that defines itself as an association for therapists, rather than of therapists. At present they're all called the 'so-and-so association of massage therapists'.

Now, why not the 'so-and-so association for MT/RMT'? The 'of' simply implies that we are a bunch of people who do similar stuff – whereas, the 'for' means that the associations is there for the MT/RMT – representing the MT/RMT, supporting the MT/RMT, helping the MT/RMT, characterising the profession on behalf of the MT/RMT. Though that doesn't answer the question.

I think that like most services, there

needs to be choice to keep everyone on their toes. Recently, I was astounded by the unacceptable conduct of one of our associations. Fortunately, I am glad that I was able to vote with my feet and re-channel my efforts and focus to an association whose principles and practices are more like my own. Choice is a good thing.

More than one association is OK, but we must have an overarching body to coordinate and streamline the commonalities of the industry. There are many aspects of our industry that can be synchronised, so we should do that – it will financially beneficial for all the associations, hence, their members.

### What are our greatest hurdles to achieve these goals?

Delusions of magnificence, idiots, portentousness, fools, buffoons, surreptitious agendas, and... weekend warriors – that is, self-annihilation – that's the only hurdle.

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# Latest research

## Title

Massage reduces pain perception and hyperalgesia in experimental muscle pain: A randomized, controlled trial

## Author(s)

Frey Law LA, Evans S, Knudtson J, Nus S, Scholl K, Sluka KA

## Published

May 2008

## Published In

J Pain. 2008 May 1

## Abstract

Program in Physical Therapy and Rehabilitation Science, The University of Iowa, Iowa City, Iowa. Massage is a common conservative intervention used to treat myalgia. Although subjective reports have supported the premise that massage decreases pain, few studies have systematically investigated the dose response characteristics of massage relative to a control group. The purpose of this study was to perform a double-blinded, randomized controlled trial of the effects of massage on mechanical hyperalgesia (pressure pain thresholds, PPT) and perceived pain using delayed onset muscle soreness (DOMS) as an endogenous model of myalgia. Participants were randomly assigned to a no-treatment control, superficial touch, or deep-tissue massage group. Eccentric wrist extension exercises were performed at visit 1 to induce DOMS 48 hours later at visit 2. Pain, assessed using visual analog scales (VAS), and PPTs were measured at baseline, after exercise, before treatment, and after treatment. Deep massage decreased pain (48.4% DOMS reversal) during muscle stretch. Mechanical hyperalgesia was reduced (27.5% reversal) after both the deep massage and superficial touch groups relative to control (increased hyperalgesia by 38.4%). Resting pain did not vary between treatment groups. Perspective: This randomized, controlled trial suggests that massage is capable of reducing myalgia symptoms by approximately 25% to 50%, varying with assessment technique. Thus, potential analgesia may depend on the pain assessment used. This information may assist clinicians in determining conservative treatment options for patients with myalgia.

## Editor's note

This study attempts to identify the effects of massage on patients with myalgia. Although the results are positive, the correlation between myalgia and DOMS is questionable. Are DOMS signs and symptoms similar to that of myalgia? Furthermore, there are many studies suggesting that massage makes no change to DOMS. The type of massage is rarely defined in these studies. In this study however, the massage is described as 'deep tissue massage' and is reported to make a considerable change (48.4%) on stretch. This finding in itself is worthy of note. What is also worthy of note is the mention of assessment technique. With many previous studies regarding massage and DOMS, the result is often quantified by performance (athlete performance) factors, not necessarily clinical findings like pain on stretch, flexibility or power output. Hence, these studies can and will show varying results depending on the assessment techniques of the researcher and what the researcher has set out to prove or disprove.

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## Title

The effect of deep-tissue massage therapy on blood pressure and heart rate.

## Author(s)

Kaye AD, Kaye AJ, Swinford J, Baluch A, Bawcom BA, Lambert TJ, Hoover JM.

## Published

Mar 2008

## Published In

J Altern Complement Med. 2008 Mar;14(2):125-8

## Abstract

**Aim:** In the present study, we describe the effects of deep tissue massage on systolic, diastolic, and mean arterial blood pressure. **Materials and methods:** The study involved 263 volunteers (12% males and 88% females), with an average age of 48.5. Overall muscle spasm/muscle strain was described as either moderate or severe for each patient. Baseline blood pressure and heart rate were measured via an automatic blood pressure cuff. Twenty-one (21) different soothing CDs played in the background as the deep tissue massage was performed over the course of the study. The massages were between 45 and 60 minutes in duration. The data were analyzed using analysis of variance with post-hoc Scheffe's F-test. **Results:** Results of the present study demonstrated an average systolic pressure reduction of 10.4 mm Hg ( $p < 0.06$ ), a diastolic pressure reduction of 5.3 mm Hg ( $p < 0.04$ ), a mean arterial pressure reduction of 7.0 mm Hg ( $p < 0.47$ ), and an average heart rate reduction of 10.8 beats per minute ( $p < 0.0003$ ), respectively. **Conclusions:** Additional scientific research in this area is warranted.

## Editor's Note

Results regarding massage and blood pressure have varied in previous studies. What have been obvious negatives to previous studies is that they do not describe what type of massage is being performed. Even in this study the massage is described as 'deep tissue massage' – a type of massage that is completely undefined (not taught in any schools, workshops or any other education but somehow performed by therapists in research studies – what is it?). What seems necessary is the different types of massage are described accurately and then utilised in these types of studies to identify the differing results of each. This would provide vital information to identify what type of technique is indicated for what pathology.

## Title

A Distinct Pattern of Myofascial Findings in Patients After Whiplash Injury.

## Author(s)

Ettlin T, Schuster C, Stoffel R, Bruderlin A, Kischka U. (Jun, 2008).

## Published

2008 Jun 3.

## Published In

Arch Phys Med Rehabil.

## Abstract

A distinct pattern of myofascial findings in patients after whiplash injury. **Objective:** To identify objective clinical examinations for the diagnosis of whiplash syndrome, whereby we focused on trigger points. **Design:** A cross-sectional study with 1 measurement point. **Setting:** A quiet treatment room in a rehabilitation center. **Participants:** Patients (n=124) and healthy subjects (n=24) participated in this study. Among the patient group were patients with whiplash-associated disorders (n=47), fibromyalgia (n=21), nontraumatic chronic cervical syndrome (n=17), and endogenous depression (n=15). **Interventions:** Not applicable. **Main outcome measure:** Each patient and control subject had a manual examination for trigger points of the semispinalis capitis, trapezius pars descendens, levator scapulae, scalenus medius, sternocleidomastoideus, and masseter muscles bilaterally. **Results:** Forty (85.1%) of the patients with whiplash had positive trigger points in the semispinalis capitis muscle. The patients with whiplash had a significantly higher prevalence of positive trigger points in the semispinalis capitis muscle than any of the control groups ( $P < .05$ ). For the other examined muscles, the prevalence of trigger points in the patients with whiplash did not differ significantly from the patients with fibromyalgia or nontraumatic chronic cervical syndrome. It did differ from the patients with endogenous depression and the healthy controls. **Conclusions:** Patients with whiplash showed a distinct pattern of trigger point distribution that differed significantly from other patient groups and healthy subjects. The semispinalis capitis muscle was more frequently affected by trigger points in patients with whiplash, whereas other neck and shoulder muscles and the masseter muscle did not differentiate between patients with whiplash and patients with nontraumatic chronic cervical syndrome or fibromyalgia.

# Soft tissue treatment for the AFL hamstring condition



For the purpose of this article, the hamstring condition includes an overview of the mechanism of injury for hamstring strains, stiffness, soreness, restriction and so on. As soft tissue therapists, there is a tendency to deal with a large range of signs and symptoms when treating the hamstring component.

**By Stuart Hinds**

**Keywords:** hip flexion, range of movement, iliosacral dysfunction, biomechanical, local, referred pain.

**Legend**

DOMS: Delayed Onset Muscle

Soreness

h/s: Hamstring

+ve: positive

psis: posterior superior iliac spine

SLR: straight leg raise

ROM: Range of movement

**Objective:** To broaden the influence of soft tissue therapy in the assessment and treatment of hamstring pain and dysfunction in elite AFL players.

**Research:** Recent screening protocols by Bennell, Gabbe, Finch, Wajswelner and Orchard for predictors of hamstring injury at the elite level of Australian Football highlighted a history of hamstring injury in the previous 12 months and age as independent predictor of hamstring injury. In particular, players who reported sustaining a hamstring strain during the previous year, and players over 24 years of age, were four times more likely to experience a hamstring injury. Players with restricted ankle dorsiflexion on the lunge test were at an elevated risk of sustaining a hamstring injury.

Hamstring strains account for the most common injury within the elite realm of Australian Football League (Orchard, Seward et al 2002), with 13% of all missed playing time. The majority of hamstring injuries occurred during the three months of the playing season (March, April, May) with a decline in frequency as the season progressed. The mechanism of injury the

majority of the time occurs during running or sprinting when a player accelerated rapidly.

The hamstring condition can be classified into four categories:

- 1) Biomechanical
- 2) Referred
- 3) Local
- 4) All of the above.

- 1) Biomechanical oriented hamstring condition can be described as a biomechanical anomalies relating to the lumbopelvic/thigh/leg region creating on overloading of the muscle group. In this incidence the hamstring acts like a tensional barometer for the lumbopelvic.
- 2) Referred oriented hamstring condition is described as pain or increased tension referred from either neuromenigial, muscular structures either in the lumbar/hip regions.
- 3) Local oriented hamstring condition is described as a local pathology from either an overloading of the hamstring from DOMS, indirect overload, or direct injury from collision, past history of injury.

## **Biomechanical**

A biomechanical h/s condition usually includes pelvic anomalies such as iliosacral fixations, upslips, sacral torsions, pelvic torsion etc, which are commonplace for the contact athlete.

As these anomalies are commonplace, it is important to note that treatment can be of a structural nature so interaction between those practioners who focus heavily on structural restrictions is integral.

## **Common pelvic anomalies**

### *Iliosacral dysfunction*

Iliosacral dysfunction includes two common

variations:

- 1) Anterior superior with internal rotation (ASIR).
  - 2) Posterior inferior with external rotation (PIEX).
- ASIR INDICATES that the ILLIUM rotates anteriorly on the sacrum, with an inflare or internal rotation tendency creating a muscular tensional change.
  - PIEX INDICATES that the ILLIUM rotates posteriorly on the sacrum, with an external rotation tendency creating a muscular tensional change.

The following is a guide to the common muscular tensional loads associated with the iliosacral anomalies.

For example, signs and symptoms of a R SIDE ASIR:

- Diffuse right posterior lumbosacral and sacroiliac pain with referral into right buttock and posterior thigh;
- Sitting usually more comfortable than standing.

### STRUCTURAL

- L iliac crest high
- R iliac crest low
- R+ VE standing flexion test (superior psis mvt on trunk flexion)
- R+ VE stork test

### MUSCULAR

- R hamstring lengthen
- R hip flexor (especially iliacus) shortened, tight and tender
- R gluteal med/min increase tone/sensitivity
- increase in trigger point referral
- R hip adductors shortened.

### Common assessment findings

R +ve Thomas test restricted rom  
SLR WILL NEED TO BE MODIFIED FOR TRUE HAMSTRING LENGTH.  
Due to shortened hip flexors will need to bring hips into flexion to counteract the increase lordosis, before performing SLR.  
Restricted R hip external rotation

### Palpation:

Increase in tone/tension trigger point activity in gluteals med/min/tfl.  
R sacrotuberous ligament is lax  
R Baer's sacroiliac point is tender

### Hamstring under tensional load

For example, signs and symptoms of a R SIDE PIEX:

- Pain usually localized to the right sacroiliac joint and ipsilateral buttock.
- Pain can be described as deep, achy, sore, tight etc.
- Pain may be referred down to the posterior thigh but not below the knee as with neurological or radicular pain.

### STRUCTURAL

- R iliac crest high
- L iliac crest low
- R +ve standing flexion test (superior psis mvt on trunk flexion)
- R+ ve reverse stork test
- R medial malleolus is shorter than left

### MUSCULAR

- R Hamstring shortened, hypertonic and tender
- R Pirformis/Glut max shortened
- R hip flexors lengthened
- B quadratus lumborum

### Common assessment findings

Restricted R hamstring restricted rom  
Restricted R hip internal rotation  
R hip flexor/ quadratus lumborum increase trigger point activity.  
R sacrotuberous ligament is taut and tender.  
Baer's sacroiliac point tender

### Hamstring on compressional tension

These pelvic anomalies are common but are not the exception, many players may present with more congenital postural types, i.e. anterior pelvic tilts/posterior pelvic tilts. These common postural types are not be confused with unilateral iliosacral anomalies, for example, you may have a player present with a postural type of bilateral anterior pelvic tilt but also present with a unilateral R sided posterior inferior external rotation of the iliosacral.

### Provocative positions for hamstring strains:

NOTE: Posterior iliac rotations produce a shortened stride length on the affected side.

It has been documented that the position of lumbar flexion with a straight leg as happens when a player attempts to pick up the ball whilst on the run is the most

common action for hamstring injury and most provocative because it places excessive tensional load whilst the hamstring is under an eccentric contraction, thereby creating an indirect overload injury of the musculoskeletal unit.

### REFERRED

Gluteus Medius/Minimus active trigger points

- Trigger points in these two muscles can be the cause of considerable lumbar, gluteal, sacral and posterior thigh pain.
- Trigger points in the gluteus medius tend to be found along its superior attachment. Apart from pain, patients will often have restricted abduction.
- They may also be a positive Trendelenberg sign because of inhibition of this muscle's function.
- The gluteus minimus muscle has a similar anatomical configuration to the medius, but less extensive, it arises from the external surface of the iliac, also attaching to the greater trochanter, its trigger points can be seen in either the anterior or posterior portions of the muscle.
- The pain that arises is deep buttock, posterior thigh and calf pain, or in the case of the anterior trigger points, pain distribution includes the buttock, lateral thigh and leg regions.
- The significance of these muscles in the origins of sacral, buttock and leg pain is that they can mimic radicular sources of pain as well as sacro-iliac joint dysfunction. Not only can they mimic these problems, but trigger points in these muscles may be as a result of both radicular and sacro-iliac joint dysfunction
- Referred pain originally from a spinal structure can set up satellite trigger points in these muscles. As stated before, the myofascial source of pain may well outlast the primary joint dysfunction.
- However pain from facet joints may overlap that of the gluteus minimus muscle. Tension generated by trigger points in the gluteus minimus may further block movement of the SI joint, particularly when involvement of this muscle is seen with piriformis.

Continued on page – 18 E

...continued from page – 17

### Activation

- Acute overload caused by a fall.
- Distortion of gait, SI joint dysfunction.

### Trigger point examination

Located deep to gluteus maximus, medius and tensor fasciae latae, hence it is difficult to palpate taut bands.

### Anterior trigger points

Patient lies supine with leg extended. Tensor fasciae latae is identified. Palpate deep distal A.S.I.S.

### Posterior trigger points

Patient positioned in side lying, thigh adducted and slightly flexed to identify the piriformis line. Gluteus minimus, t.ps are found above this line between its midpoint and junction of its middle and lateral thirds.

### Associated trigger points

- Seen in conjunction with piriformis, gluteus medius, vastus lateralis, peroneus longus, quadratus lumborum and gluteus maximus.
- Anterior gluteus minimus and tensor fasciae latae often develop trigger points together; vastus lateralis trigger points can develop as satellites.
- Gluteus minimus may develop as satellites to quadratus lumborum. The connection is so strong that sometimes activation of quadratus lumborum activates gluteus minimus trigger points.

### Treatment: Anterior fibres

- Extension adduction over the edge of the couch.
- For posterior fibres, the leg is held over the edge of the couch, flexed at 30 degrees, internally rotated adducted.

### Piriformis

#### Anatomy

This muscle arises from the inner surface of the sacrum and attaches to the greater trochanter of the femur.

### Referred pain

Pain is referred over lateral aspect of the buttock, down the posterior thigh and sacro-iliac joint. Neurogenic pain may accompany active trigger points and this pain can be referred into the back of the leg

and the sole of the foot.

### Function

A stabiliser of the hip and lateral rotation of the thigh in extension and neutral. At 90 degrees flexion it abducts the thigh, produces a strong rotary force on the sacrum. This would tend to displace the base of the sacrum anteriorly while the apex is displaced posteriorly.

### Symptoms

Pain and paraesthesia may be felt in the low back, buttock, groin, perineum, hip, posterior thigh, leg and foot and in the rectum. Symptoms are aggravated by flexion, adduction and rotation. Patients may complain of painful swelling in the limb and sexual dysfunction. Piriformis syndrome 6:1 in favour of females. Travell and Simon identify three components to the syndrome:

- a) Myofascial trigger point pain
- b) Nerve and vascular entrapment
- c) Dysfunction of the SI joints.

As any muscle contracts, its girth increases. Anatomical variations such as a large muscle in a small greater sciatic foramen could lead to neurovascular compression. Active trigger points in the piriformis could cause displacement of the SI joint which in turn could maintain piriformis shortening. Pain due to the myofascial trigger points includes back, buttock, hip and thigh pain. This is often aggravated by sitting. Compression of the superior and inferior gluteal nerves and vessels and could cause buttock pain and in extreme cases, atrophy may develop. Pain in the region of the SI joint could be due to local dysfunction of the joint. Pressure on the sciatic nerve or on the post femoral nerve could augment thigh pain. Symptoms in the calf, foot and paraesthesia could be similarly explained. The pudendal nerve could be involved, leading to sexual dysfunction and groin pain. This syndrome may be easily confused for radiculopathy.

### Activation

Catching oneself in a fall can precipitate trigger points in this muscle. Forceful rotation with body weight on one leg. Resisting forceful medial rotation of the thigh during running, legs spread with

thighs flexed, as in obstetrical or coital positions. Perpetuation comes about through immobilisation of the sacro-iliac joint. Sitting driving for long periods of time and osteoarthritis of the hip.

### Patient examination

Test hip adduction strength in 90 degrees flexion. Piriformis stretch position test.

### Increased neural tension

### Peripheral nerve entrapments

Posterior Femoral Cutaneous Nerve: symptoms confined to posterior thigh and do not extend below the knee. The posterior femoral nerve runs adjacent to the sciatic nerve and can be compressed by piriformis.

### LOCAL

Secondary trigger points

### HAMSTRING

Innervation:

Branches from the tibial portion of the sciatic nerve, 5th lumbar and 1st two sacral nerves.

### Function

*Hip*

- Extend thigh at hip
- Decelerate the forward moving limb at terminal swing
- Semimembranosus/semitendinosus assist in internal rotation with the hip only when the hip is straight
- Long head of biceps assists in external rotation with the hip in extension.

*Knee*

- Short head of biceps femoris is a flexor at the knee.
- Semitendinosus and semimembranosus internally rotate the leg in knee flexion.
- Both heads of biceps femoris externally rotate the leg.

### Local hamstring pathologies

*Hamstring syndrome*

Sciatic nerve is constricted between two fibrotic bands of the hamstrings at the lateral proximal attachment to the ischial tuberosity.

- More obscure conditions such as snapping

syndrome of the semitendinosus tendon, semimembranosus tenosynovitis, snapping bottom or bursitis of the biceps femoris superior bursa are rare but are to be kept in mind as possible considerations.

- Trigger points in the hamstring muscles are responsible for tightening/shortening which produces a posterior tilt of the pelvis reducing normal lumbar lordosis a secondary compensatory overload to quadratus lumborum, iliopsoas, thoracic paraspinals and rectus abdominis.
- Adductor Magnus tightness of the posterior part will block full hamstring lengthening, especially the medial hamstrings.

“Hamstring tension is so often a key to low back pain of myofascial origin that even though the iliopsoas or QL seem to be primarily involved, it is wise to start treatment by releasing the hamstrings” (Travell & Simons, vol 2, pg. 331).

#### Common sites of strains

- 1) Mid belly semitendinosus
- 2) Biceps femoris
- 3) Attachment of ischial tuberosity

#### A soft tissue therapy treatment rationale for the hamstring condition

Assess and clear/correct lumbar/hip biomechanical

- Standing/sitting iliac heights.
- Standing/sitting flexion tests/stork test.
- PIEX/ASIR Innominate.
- If present correct innominate (MET muscle energy technique).

Assess and treat soft tissue component.

- See assessment findings for PIEX/ASIR for soft tissue treatment.

PIEX treatment example only

#### Common assessment findings

Restricted R hamstring restricted rom  
 Restricted R hip internal rotation  
 R hip flexor/quadratus lumborum increase trigger point activity.  
 R sacrotuberous ligament is taut and tender.  
 Baer's sacroiliac point tender

#### Muscular treatment

R hamstring shortened, hypertonic and tender

R piriformis/glut max shortened

R hip flexors lengthened

B quadratus lumborum

R gluteus minimus/tfl fascial restriction

B lower rectus abdominis/external obliques trigger point activity?

#### REASSESS TREAT, REASSESS ECT

Treatment considerations

- Lateral flexion of trunk: QL tensional vs compression symptoms.
- Flexion of trunk: lumbar, buttock, hamstring or calf complex.
- Extension: tensional vs compression symptoms
- Hip range of movement, look for adductor magnus or medial hamstring tightness on SLR.
- Piriformis (myofascial dysfunction).
- Slump test: treat restriction myofascially.
- Clear antagonist, quadriceps tension and Rom.
- Due to the prevalence of reduced dorsiflexion range of movement as one of the key predictors in hamstring injuries, assessment and treatment of the anterior and posterior compartments of the leg are worthy of consideration.

*Stuart Hinds is a lecturer in remedial soft tissue techniques at Victoria University (Melbourne, Australia). Stuart has been a practising soft tissue therapist for 17 years. In that time he has worked with elite road cyclists and a range of athletes from all professional levels of sport, and is currently a soft tissue therapist for the Geelong Football Club. Stuart has also published articles relating to soft tissue treatment and its relationship to musculoskeletal dysfunction within the industry journals and mainstream publications. Stuart was part of the soft tissue team for the 2004 Australian Olympic Team in Athens and presented at the 2003 Australian Conference in Science and Medicine in Sport on the practical dynamics of soft tissue treatment of adductor strains. More recently he was keynote speaker at The 3rd Joint Sportex Sports Massage Association*

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# Neuromuscular holding patterns and fascial restrictions

The body's myofascial homeostasis is a very dynamic one, constantly adjusting itself to accommodate our daily activities and the load that results from them. Megan Kehoe discusses the process and implications.

**T**he purpose of muscles is to allow strength, posture and maintain the body within a normal limit and range of motion (ROM), (Clarkson, 2000). If these biomechanics are interrupted or compromised in any way, the body has an autonomic ability to compensate for this change. This can be seen in the body through a process known as homeostasis.

Homeostasis is a universal concept which is applied in basic anatomy. The integumentary system follows this balance by allowing sweat to be excreted to lower body temperature, acting as the body's cooling system when it is overheated. It is evident when the kidneys act to either excrete or retain fluid for an increase or decrease in blood pressure. This theory of equilibrium is not discriminatory to muscles or fascia either. This balance or lack thereof can be seen in the body by neuromuscular holding patterns and in turn fascial restrictions.

So what is a neuromuscular holding pattern? Neuromuscular pertains to muscles and nerves, and the holding pattern is the mechanical and physical position the body supports itself in when this equilibrium is disrupted. In greater detail, it is when the autonomic nervous systems (ANS) sympathetic division, causes an increase in neural activity, causing fibroblastic production to increase and form specialised collagen fibers to be laid down in areas of weakness that need to cope with this extra load.

The "laying down" of fascia is triggered by a theory known as the piezoelectric affect. This is where a line of tension develops in the fascia causing crystalline structures to trigger fibroblast activity to the area between the areas of two crystals in the fascia, acting as an electromagnetic force (Athenstaedt, 1974). These fibroblasts are brought about due to the perceived injury to the tissue, which can be caused through poor body mechanics and

tissue weakness. Therefore with an increase in load on an area, this stimulates a higher charge and fibroblast activity will follow.

The other resulting factor from this fascial lay down is the mechanical interfaces that it has the potential to effect. This means the extra fascia will not only affect the function of the muscle, but can also lead to nerve tethering and potentially a loss in peripheral sensation (if affecting plexuses and nerve supply to those regions).

Referring back to homeostasis and equilibrium, we can now add another system known as the General Adaption Syndrome (GAS)<sup>1</sup> and more specifically the Local Adaption Syndrome (LAS)<sup>2</sup>, (Seyle, 1958). This is a theory that acts as an adaptive mechanism to changing tissue structures when demands exceed the capacity for muscles to absorb loads placed on them. This theory is applied in three stages and by using neuromuscular holding patterns as

an example, the following will occur. The alarm stage is the initial phase where the tissue reacts to the change and an increase in neural activity to the muscle, by laying down type III collagen fibers in a compensatory fashion. This can also affect the integrity of the muscular tissue and surrounding structures by causing altered blood flow and an increase in injury susceptibility.<sup>3</sup>

Adaption is the next phase to follow, which is evident in clients that present with decreased and/or poor quality in ROM and a molecular change in fibers and its strength. This not only causes an impaired nutrient supply to the area, but also an increase in neural activity<sup>4</sup> which continues to trigger the lay down of fibers to compensate for this further load.

The final stage is exhaustion. This is the stage where the tissue essentially gives up to fatigue and a continuous lay down of fibers occurs, causing a chronic condition and a visible holding pattern. The biggest and more detrimental change occurs when the collagen fibers begin to change their histology from the more pliable and elastic type III collagen fibers and form the stronger and more tensile type I fibers. This is a problem because this change in fibers means not only longer treatments (Rx) to break down the fibers, but it's also harder for the client to change this learned posture and consequently the proprioceptive holding pattern.

Looking at adaption in a little more depth, studies have shown that connective tissues are very similar to foetal stem cells (Klingler et al, 2004), due to the fact that they have the ability to differentiate as needed. That is, they can change the cell's type to assist the body in the area need. For example, fibroblasts are able to specialise into collagen fibers with contractile ability, thus assisting in the excess load placed on the body, this is commonly seen in injuries and other inflammatory/adhesive injuries such as frozen shoulder.

*Fibroblasts are able to specialise into collagen fibers with contractile ability*

If the problem area isn't treated in the early stages (while the collagen fibers are still type I) then the realignment of fibers will not occur properly. This means the collagen fibers that have been laid down in a haphazardly manner will cause an increase in load on the area, resulting in the fibers further pulling, creating an additional weakness and fibroblastic activity. So it can be seen that this can easily become a chronic and self-perpetuating situation.

Hydration is another factor that has a huge influence on the integrity of muscle and how it can affect fascia and its interactions with surrounding structures, affecting ground substance and a decrease in viscosity. Research has shown that during an isometric proprio neuromuscular facilitated (PNF) contractions water is retained in the ground substance during the resting period between stretches, thus increasing the fluid medium and quality of the stretch in contractile fibers (i.e. collagen and muscle) and decreasing rigidity (Klingler et al, 2004).

According to Newton's 2nd law of Force=Mass x Acceleration ( $F=Ma$ ), standing in the anatomical position with body weight as mass, the lumbar spine (which is the strongest and largest vertebra in the spine) withholds 9.8 m/sec of acceleration from gravity. This means the average 70kg male times the gravitational pull has 686 newtons of force placed on it.<sup>5</sup> This isn't even taking into consideration the increase in pressure placed on the lumbar spine during lumbar flexion whilst sitting, this showing why the lumbar spine is a common area of fascial restriction and why a high portion of the general population will experience lower back pain in their lives.

Fascial restrictions can be seen anywhere in the body, whether it be caused by the serratus anterior muscles working over time in an asthmatic, or a body builder who has stronger biceps than triceps, or even something structural such as a true leg length difference. These are all examples of areas with a potential for fascial restrictions. If the asthmatic doesn't treat the constantly overworked muscles of respiration, then fascial build up and adhesions occur resulting in a further decrease in the capacity to expel air from the lungs. If the leg length difference isn't assessed and treated, then unilateral gluteus medius weakness may arise, triggering the GAS/LAS theory to adapt to

the change.

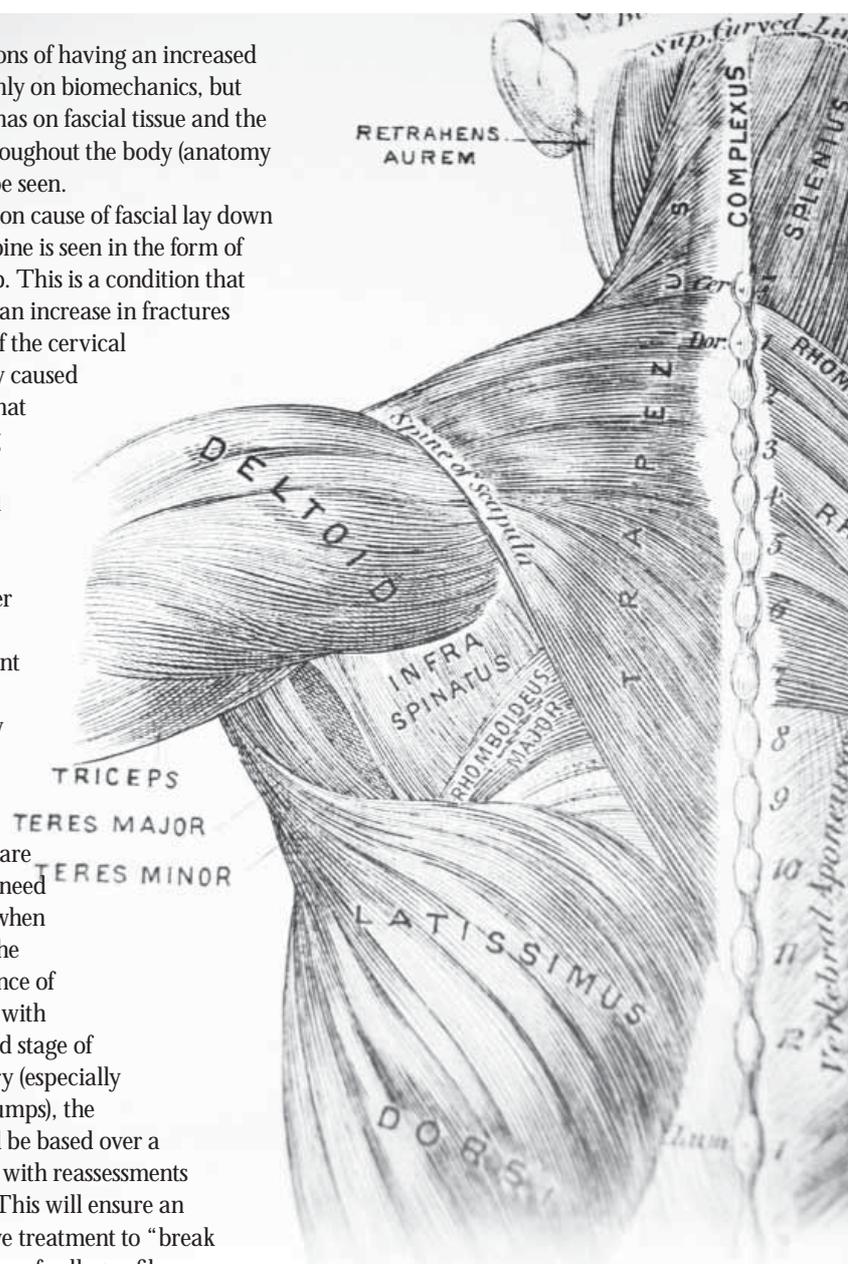
The repercussions of having an increased load placed not only on biomechanics, but also the affects it has on fascial tissue and the trains it forms throughout the body (anatomy trains)<sup>6</sup> can also be seen.

Another common cause of fascial lay down observed in the spine is seen in the form of a dowager's hump. This is a condition that can be caused by an increase in fractures in the vertebrae of the cervical (Cx) spine (mainly caused by osteoporosis) that creates a wedging affect through the spine that will ultimately result in an abnormal kyphosis. However the dowager's hump predominant causative factor is usually poor body mechanics and posture.<sup>7</sup>

As already mentioned, there are three phases that need to be considered when treating. Due to the common occurrence of clients presenting with the second or third stage of Seyle's LAS theory (especially with dowager's humps), the treatments should be based over a four week period, with reassessments every treatment. This will ensure an efficient restorative treatment to "break down" the build up of collagen fibers.

The tissue will respond well to myofascial techniques (MFT), deep transverse frictions (DTF), trigger points (Trg pts), tissue tension techniques, PNF (as previously discussed) and strengthening exercises.

The application of varying MFT can be used on the tight and shortened anterior mm's (pectoralis major and minor), while Trg pt therapy can be applied to the lengthened and weak posterior mm's (rhomboids major, minor and middle fibers of trapezius). Also to be addressed should be subscapularis and infraspinatus, as both these muscles externally rotate the glenohumeral joint, and in the case of a dowager's hump the kyphotic Cx, puts these muscles into a prolonged



stretch (internal rotation) with an increase in fascia lay down, resulting in adhesions occurring to compensate for the load.

A very effective technique that can be used to both strengthen the lengthened and weak muscles, whilst also stretching and increasing the ROM of the short and tight muscles is PNF. To be more precise, the contract-relax and hold-relax techniques would address both strengthening and flexibility respectively.

With all of this information, as a massage therapist our treatment aims are to first and foremost encourage the re-education of these common postural behaviours for the client

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outside the treatment room.

A sound home care package is the most essential component to any treatment plan, especially when working with fascial build up. Exercises using either free weights or therabands will help to increase strength to the weak posterior muscles and encourage an increase in proprioceptive awareness and overall biomechanical changes to posture. Incorporating this with PNF hold-relax and contract-relax to the anterior muscles to increase the ROM and counterbalance the initial presenting condition. As previously discussed, hydration is an essential tool for maintenance and tissue health as it is a very important factor to maintain a fluid movement between muscle and connective tissue fibers. The benefits of also referring to a nutritionist/dietician (who can work within their scope of practice) may help to further the treatments by the use of nutritional supplements and vitamins that can be

incorporated in the diet to maintain muscle health.

The processes and mechanisms the body goes through to compensate for change can now be seen. It is important for massage therapists to know these molecular and physiological changes that occur in the body, as it gives an idea of how and why we as manual therapists need to apply our techniques to have maximal benefits for our clients. We know to assess and treat in the early pathophysiological stages of collagen production (when the fibers are more pliable), while also using our assessment tools and techniques to work on a client at the pathomechanical stage (where the fibers are at a greater density with more tensile factors).

The most important point is to know that fascial restrictions do exist and that they have the ability to affect the body on a greater scale than first perceived.

#### Endnotes

1 This is a theory that is applied to an entire

organism.

2 This is a theory that is applied to a more 'localised' area.

3 This susceptibility can be caused by an ^ in viscosity (due to a decrease in fluid) between the mm and fascia, causing weaknesses in the mm and its firing patterns.

4 As described previously with piezoelectric theory.

5 This is not taking into consideration torque.

6 Fascial trains are (like the nervous system) a continuous network of tissue that runs in many lines from head to toe, and in deep, intermediate and superficial layers.

7 Predominantly seen in sedentary office workers, due to the placement of computers, and the lack of strength and ^ in areas of weakness due to mm fatigue.

*Megan Kehoe is a student at  
Canberra Institute of Technology.  
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# The future for massage therapy

Student Andrew Peterson gives a fresh-faced perspective on the industry, asking some of the tough questions on standardisation and regulation.

**A**s a 3rd Stage Diploma of Remedial Massage student at Sydney Institute of TAFE Loftus Campus, I am relatively new to the massage industry, with my view based on what I have learned from my peers, my teachers and the industry's role models.

I would like to be established as a massage therapist working with sports teams and athletes both at national and international level. My goals include looking at the opportunity of working closely with sporting institutions around the world, as well as at home with the Australian Institute of Sport. I have started my career by volunteering part-time with the NSW Weightlifting Team at Olympic Park, where I hope my dedication and experience will lead to a position of employment at the New South Wales Institute of Sport or within a sports massage clinic, furthering my skill development within the sports health framework. I was also very fortunate to be involved with the Ironman Triathlon at Port Macquarie, providing post-event massage for all of the athletes as part of TAFE's involvement with this event. These experiences have helped accelerate my confidence and ability in providing all types of massage for all of my clients/patients.

Just recently I have become aware of a struggle within our industry that has been going on for a long time now – that is, the need for standardisation and regulation of the massage industry, hereby establishing massage therapists as professionally recognised healthcare providers with their own specialisations and work practices.

My first question is: Who are the regulators to regulate our industry? Who has that final say? Is it the Government? Has the Government appointed a representative to oversee such a regulation? Are they even aware that our industry needs such regulation? Is it the head of our massage association? But then, which association?

Should it be the teachers who have 10-15 years experience working within the industry? How about those who are 'top of the field' and who are considered to be the best within the industry? Who would currently fit that position and where would we find them?

It seems a relatively long, slow process. It was only a few years ago that students at TAFE were educated as to the need for the massage therapy industry to move its image away from that of the sex industry with advertisements promoting 'massage', causing confusion and embarrassment for potential clients. Now it seems we need to move into an area that not only distinguishes ourselves from other health care providers (for example, physiotherapists) but also to distinguish ourselves from each other. I do acknowledge and see the need for massage therapists within our industry to be recognized or 'certified' in some way that distinguishes to our clients/patients those of us who can provide professional care through remedial/sports massage from those who are able to provide relaxation massage, but who are not trained/qualified to perform muscle testing and provide treatments as a result.

As a student, I am not completely clear as to when to refer a client and when to perform treatment myself. My own personal experience, having had a 'strong pelvic twist', was to see a chiropractor/osteopath who performed adjustments on my spine and pelvis. So it seemed logical – massage therapists would work on soft tissue only and chiropractors/osteopaths would work on hard tissue and bones. I have learned today that as massage therapists we are able to work the muscles that pull the bones out of alignment. And as for soft tissue work, who should a client see for treatment – a massage therapist or a physiotherapist? My understanding was that physiotherapists treated acute injuries while massage therapists treated chronic complaints, but

that now a blending occurs where massage therapists are utilising physiotherapy techniques and physiotherapists are performing soft tissue massage therapy for their clients/patients. I understand that this is now causing problems for massage therapists in the sports health industry, where massage therapists are not being valued or recognised professionally with physiotherapists performing sports massage therapies.

So my current view of the massage industry is that it is confusing, with future progress quite challenging. The full potential of massage therapy and its many applications have not been discovered or explored as yet, and we are still awaiting future evidence – both scientific and medical – as to the true physiological effects of massage on the body's organs and systems.

Until then I believe that all of us within the industry need to come together and lobby for the Australian Government to begin the process of regulation of the health industry regarding massage therapists so that we have a clear framework to operate professionally within. This will prevent any person without training to set up and establish themselves professionally as massage therapists and become the face of our industry.

Government endorsement for research grants targeting university involvement in the studies of massage therapy and human physiology will provide the much needed findings that will finally give credibility to massage therapists, establishing the standards and best practices needed to operate professionally within this industry. From there we can build education packages that will provide the right training framework and qualifications/certifications that will allow each type of massage therapist to operate within their own specialty, giving clarity for all clients/patients as to which services each practitioner is qualified to provide.

Then we can move forward and look at the exploration and applications of all types of massage – from relaxation and holistic massage to medical and sports massage therapies – for all.

# To what extent does evidence-based practice assist practitioners to avoid confusing personal opinion with scientific evidence or personal ignorance with genuine scientific uncertainty?: a discussion paper

By **Robert Di Leva**

**C**linical experience alone is sufficient to guide clinical decision-making. By exploring the model of evidence-based practice (EBP), it will be argued that providing optimal patient care requires the need for evidence to assist and guide a healthcare practitioner. Although EBP practice is simplistic and has the theoretical support of practitioners (Jette et al., 2003), it is not always so readily implemented within a practical setting. Instead a practitioner may opt to rely on clinical experience alone to guide clinical decisions.

This paper attempts to resolve the challenge of implementing EBP into a practical, clinical setting by exploring the known barriers to utilising evidence in practice. It will explore the complexity of incorporating the seemingly uncomplicated process of applying evidence into practice. An appreciation of industrial factors which have a bearing on the ability of practitioners to become EB practitioners will be considered. The process of implementing evidence into a clinical setting will also be reviewed. Finally, factors which affect how practitioners implement evidence on a day-to-day basis will be explored, including how EBP is used to support clinical decision-making.

EBP has been defined by Sackett et al (1996, pg 71) as "...the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients/clients". In addition, Haynes (2002) sees EBP as a process, beginning with clinical questioning, critique or appraisal of the evidence, application of the evidence, and finishing with an evaluation of the clinical outcomes. Both definitions suggest EBP is a method in which healthcare professionals formulate clinical decisions, based on the best scientific evidence available

for individual patients. The Canadian Health Service Research Foundation (CHSRF) (2004) adds that evidence-based practitioners combine not only research evidence but also political and organisational evidence to arrive at clinical decisions.

Greenhalgh (1997, pg 2) offers a simple definition of EBP: "Evidence-based medicine requires you to read the right paper at the right time and then alter your behaviour and the behaviour of others in light of what you have learnt." Interestingly, this definition adds a component of a healthcare professional seeking to find clarification or develop knowledge in an area in which they may be limited. This definition suggests a practitioner has the ability to admit to one's own errors and oversights and to critically assess prior work. This is crucial because knowing one's own limitations is the basis of EBP (Law and McDermid, 2008).

Within these definitions, there has been no mention of the value of a healthcare professional's experience in the field to help guide decisions. O'Brien (2001) suggests that treatments which are not supported from sound research studies, and are inconsistent with biological and physiological mechanisms, are not provided to clients. This proposition is founded on ethical grounds, where there is an area of ambiguity the practitioner has an obligation in giving a patient the right, information about a treatment or results of a diagnostic test. Clinical experience cannot substantiate up-to-date clinical research.

Refuting these claims that clinical experience should have minimal weight in clinical decision-making, Sackett (1996) explains that EBP is part external evidence and part therapist's experience. Sackett (1996) offers that EBP is a combination of factors which ultimately play a fundamental role in achieving one goal – the best possible advice and treatment for

the patient which incorporates practitioner experience and patient's beliefs. Sackett's definition offers a wholesome multifactorial approach to the ways in which a healthcare professional cares for the patient. It is for this reason this definition will be used throughout this paper.

The varied definitions and wording of EBP provide an insight to the healthcare industry which follows Sackett et al.'s (1996) thoughts, which acknowledge the industry as an imperfect science. Naylor (1995), for example, suggests that clinical medicine seems to consist of few things we know, a few things we think we know (but probably don't), and lots of things we don't know at all.

It is obvious from these authors that aspects of healthcare, such as manual therapy, are not strictly evidence-based in that practitioners are working in situations which do not always have clinical evidence to support the rationale of an intervention or diagnostic test. This is not a novel discovery amongst healthcare practitioners, as Rothstien (2000) indicates many clinicians make treatment decisions based on information learned when training or during a short course. What can be of concern is that in most instances, an intervention plan is initiated without knowledge of a patient's true diagnosis (Stratford, 2001). Despite the apparent uncertainty, practitioners intervene with treatment which may or may not be deemed effective. In these instances EBP is needed to establish the most effective treatment and diagnostic test available.

Naylor (1995) argues that the clinical experience of a practitioner is a deciding factor when diagnostic tests are ambiguous. In support, Stratford (2001) maintains that a practitioner needs to draw on clinical experience to interpret conflicting diagnostic results. However, this argument challenges the practitioner's ability to accurately diagnose the exact nature of a patient's complaint. Although a practitioner may be able to effectively

diagnose patients by these means, there is no scientific evidence to support the rationale for the diagnostic test used, and specifically the suitability of the intervention chosen (O'Brien, 2001).

A practitioner can mistake personal opinion for evidence, especially if there has been minimal or no formal education of EBP. This idea that evidence is not high on the agenda of the health industry is supported by Stratford (2001), who suggests that textbooks and continuing education courses traditionally focus on the technical skills associated with clinical diagnostic tests. Furthermore, teaching institutions themselves have been accused of providing assessments or treatments which have little scientific grounding (O'Brien, 2001). Jette et al. (2003) support these claims by suggesting that undergraduates are 70% less likely to be familiar with the processes involved in EBP than postgraduates.

This, however, is not to suggest that a practitioner who enlists in educational and professional development is not attempting to develop and stay up-to-date with industrial guidelines and intervention protocols. One might need to look at the quality of Continual Professional Development (CPD). Belenger (1997) called for Canadian physiotherapists to be critical of continuing education courses and recommended a program which would incorporate EBP. It is interesting to note Jette et al. (2003) found that EBP knowledge post-qualification is better compared to professionals in the industry for 15 years.

In light of the lack of evidence-based education, practitioners may rely on guidelines from industry leaders to guide practice decisions (Oxman, 1995). Oxman (1995) found that practitioners assume that needs for scientific validation are met through industry leaders. However, Naylor (1995) suggests clinical guidelines writers fall into the same trap, marshalling an expert consensus that fails to distinguish fact from fervour. Oxman (1995) supports this by suggesting that even though expert opinion may be important and useful, it often lags behind the evidence.

Overall it has been shown that the health care industry is flawed, in terms of developing evidence-based practitioners. Educational facilities seem to fall short

in delivering quality evidence-based techniques. In addition, industrial associations may publish out-of-date guidelines. From this, it can be appreciated how a practitioner can mistake personal opinion with scientific certainty. There are, however, means for practitioners to develop EBP within a clinical setting.

To increase an awareness of implementing EBP, Sackett et al. (2000) devised a systematic process to function within a clinical setting. In addition to the skills a manual therapist practitioner is required to utilise every day, such as taking a history, carry out examinations, establish a diagnosis, and plan options for interventions, several authors (Herbert et al., 2001; Guyatt et al., 2000) propose that a practitioner must have further skills to effectively provide patient care. The process involves asking answerable questions, finding the best evidence with which to answer these questions, appraising the evidence, applying the evidence to clinical problems, and evaluating the effects of the intervention on individuals.

The first phase of developing EBP starts with questioning. Herbert et al. (2001) tells that the initial practice of EBP commences

## *A practitioner can mistake personal opinion for evidence*

with an acknowledgment of uncertainty. With uncertainty, inquiry follows. Clinical questions arise frequently in providing healthcare, and clear defined questions are important to ensure clear answers (Oxman, 1995). Clinical questions are devised from the link between the patient, and a particular treatment or diagnostic test (Oxman, 1995). Factors such as the population treated, as well as the context in which the treatment would be carried out, need to be established (Bennett and Bennett, 2001). Devising a PICO (Patient, Intervention, Comparison, Outcome) question is one way of refining a question and finding suitable evidence. To have any benefit on patient outcomes, a clear question much incorporate components which will direct the practitioner to positive search results (CEBM, 2008).

A practitioner strives to explicitly identify knowledge gaps. This contrasts with some traditional models of clinical practice in which uncertainty is seen as a failing and good practitioners are thought to be those who always know what to do, not those who question what they do (Herbert et al., 2001).

Having posed a pertinent, answerable clinical question, a practitioner proceeds to find the best available evidence to answer this question. Finding the best available evidence is the second component to developing EBP. Oxman (1995) and The Centre For Evidence-Based Medicine (2008) suggest finding evidence can be done by utilising several sources. For example, secondary sources of data provide evidence-based information on how to provide most favorable patient care (CMA, 2008). Examples of such resources, taken from The Centre For Evidence-Based Medicine (2008) website, include: UK National Library for Health, National Institute of Clinical Excellence (NICE) and New Zealand Guidelines Group. Specific evidence-based journals and periodicals such as Bandolier, British Medical Journal, and the Journal of Evidence-Based Medicine provide information for practitioners on clinical practice (Belsey and Snell, 2001).

Systematic reviews such as the Cochrane Library are also useful, in which people from different countries find, appraise and

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review available evidence from randomised controlled trials (RCTs) (Belsey and Snell, 2001). Although measures such as asking a colleague or referring to a passage from an up-to-date textbook may be efficient and make the most sense, Oxman (1995) suggests that these methods are as only as up to date as the most recent reference, which means they are at least partly out of date.

An important aspect of EBP is to critique the evidence for its validity or clinical usefulness (Benett and Bennett, 2001). There is an inverse relationship between the quality of a study and the confidence of a clinical decision (MacDermid, 2008). The concept of ranking levels of evidence is based on the principle that certain study types have more rigour and higher quality study designs provide more confidence to associated clinical decision making (MacDermid, 2008; Belsey and Snell, 2001). A summarised level of evidence is found in the table below. This table shows the descending order of evidence according to its credibility.

Ultimately once a search has been carried out, the practitioner needs to consider whether the evidence may enhance the quality of care to his or her patient or hinder it. Factors such as cost and time of treatment, patient's beliefs and expectations may effectively guide a practitioner's decision-making (Law and McDermid, 2008). The literature

clearly endorses an evidence hierarchy, placing a practitioner's experience towards the bottom of this. Based on this, it can be shown how EBP can increase a practitioner's confidence in clinical decision-making, thus reducing any conceptions of mixing personal opinion as scientific evidence.

Once the literature has been evaluated for its suitability, knowing how to use the literature is essential to ensure practitioners are providing best patient care (Oxman et al., 1995). From an evidence-based perspective, deciding if the intervention or diagnostic tool will produce a desired outcome without unreasonable risk and at a reasonable cost is imperative (Carr, 1994). This is somewhat different in traditional models of practice, where the priority may be given to clinical experience as a form of evidence. Traditionally, clinical research evidence is happened upon rather than strategically sought out, and appraisal of clinical research is superficial or does not occur at all (Herbert et al., 2001). Experience is a form of evidence which can be associated with improving patient's health outcomes. However scientific evidence is needed to provide a more rounded approach to patient care.

A challenging component of evidence-based medicine is to find a means to objectify and evaluate the effects of changing a behaviour based on evidence. Greenhalgh (1996) states that there is a methodological minefield to attempt

to interpret the degree a patient has benefited from an evidence-based healthcare decision. However, Belsey and Snell (2001) offers a pertinent example where EBP has positively affected a population with the advent of perioperative prophylactic measures for patients at risk of Deep Vein Thrombosis (DVT) post surgery, which prior to evidence was a major cause (2 patients per 1000 per year) of disability and death in the United Kingdom.

Measuring the efficacy of implementing an evidence-based decision is multi-dimensional for both practitioner and patient. Scientific evidence, however, often measures outcomes as a dichotomy: was this process evidence-based or not? This may not give a true experiential account of the overall performance of the practitioner (Greenhalgh, 1996).

It has been shown that the process of EBP is both simple in its rationale and complex in its application. The process of asking answerable questions to find the best evidence with which to answer these questions were offered. In addition, appraisal of evidence, its application and evaluation to clinical scenarios were also presented.

O'Brien (2001) considers EBP intuitively attractive as it conjures up images of effective and efficient care for clients and the utmost in professionalism in the practitioner. However a grandiose image is not without its perceived hurdles in obtaining. A study by Jette et al. (2001) showed overwhelming support (85% of respondents, n=1000) for the need to increase the use of EBP. A further 90% of respondents claimed EBP a necessity in a clinical environment (Jette et al., 2001). With such liberal support for EBP, why are practitioners not actively participating in it? Authors such as Bennett et al. (2003) and Law, Pollock and Stewart (2004) found there is a significant lack of implementation of EBP within a clinical setting.

Reasons why EBP was not implemented included difficulty in finding time to search for evidence and then appraise and implement it (Bennett et al., 2003; Law et al., 2004), limited quantity of evidence in specific clinical areas (Bennett et al., 2003), insufficient quality of evidence

### Levels of evidence

(Adapted from Belsey and Snell, 2001; Oxford Centre for Evidence-based Medicine, 2001; Law and McDermid, 2008)

Level	Example
1	Strong evidence from at least one systematic review of multiple well-designed randomised controlled trials.
2	Strong evidence from at least one properly designed randomised controlled trial of appropriate size.
3	Evidence from well-designed trials such as non-randomised trials, cohort studies, time series or matched case-controlled studies.
4	Evidence from well-designed non-experimental studies from more than one centre or research group.
5	Opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert committees.

(Hebert et al., 2001), lack of access to computers and journal articles needed to carry out evidence for practice (Bennett et al., 2003, Curtin and Jaramazovic, 2001), and research not providing certainty since findings cannot be applied to individual patients (Hebert et al., 2001).

For each reason why EBP is not been implemented, various authors provide arguments to ensure ample solutions and measures are considered before not undertaking EBP. Some solutions include support from a manager, access to relevant resources, and personal factors such as self-motivation and personal interest (Curtin and Jaramazovic, 2001). Postgraduate education was linked to greater use of current research literature (Bennett et al., 2003).

The use of EBP is imperative in delivering optimal care for the patient. This essay has reviewed the definition of EBP specific to a clinical healthcare delivery perspective. The model in which EBP has evolved was discussed to appreciate how the healthcare industry has evolved with respect to providing patient care.

The process of applying EBP was exhibited, which shows both its complexity in its application and simplicity in concepts. It was shown that the use of a practitioner's personal opinion, although very valuable in patient care, does not constitute scientific evidence. Finally the main factors which were found to impede the practical application of evidence were discussed. This paper showed how a practitioner involved in EBP avoids criticism and can overcome the pitfalls of personal ignorance.

**Robert Di Leva is from the School of Sports Therapy, University College of Birmingham, United Kingdom. He can be contacted by phone on +44 (0) 121 604 1000 or by email R.Dileva@ucb.ac.uk.**

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## UK SMA Update

**W**ith the end of the soccer and rugby seasons, applications for membership of the PTP (Professional Team Practitioners), the new special interest group within the SMA, are expected to increase considerably, now that the therapists have had some time to reflect on the past season and what the SMA can offer this group of practitioners.

The SMA has undergone a recent Membership Structure review, which it is in the process of presenting to its members. The Board feels its proposed new structure will provide leadership to the industry in the UK in the lead up to the 2012 Olympics. More information will be made available once the details have been released to the membership.

We have continued our policy of establishing overseas links by opening a dialogue with the Pennsylvania Chapter of the American Massage Therapy Association via Michael Marzulli, a Vice Chair. It is hoped we will be able to progress this relationship in the coming months.

In June, Dr Peter Levy, a chiropractor from California is presenting three 'Neuromuscular Re-Education' seminars in the UK for the SMA, each consisting of two days of hands-on teaching.

Two will be based in London and one in Manchester. We hope to continue to be able to secure the services of more guest

speakers to present further hands-on seminars on various subjects.

As previously reported, Skills Active is now consulting on the new draft National Occupational Standards for Sports Massage and Sports Therapy, and has organised a consultation event in early July with the aim of improving on the draft standards. So far 17 units of standards have been developed. The final Project Steering Group session is targeted to take place in early September 2008, when it is hoped that these units will be signed for submission to the approval bodies. The programme still looks to be on schedule for implementation during 2009.



*Steve Cluney  
Non-Executive Director, SMA*

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# Getting stuck into the web

**G**etting started on the World Wide Web is a big task, so knowing where to start when setting up a website is difficult.

Fortunately for you, by reading this article you've already taken the first step in the right direction. What follows are the key factors that will help you build a very successful website, with some specific information to the allied health industry. I'll focus on websites for the allied health industry, how to plan the development of your website, what goes into making a website, how to maintain a website and the key points to follow after it has been launched.

## Plan first

It really goes without saying, planning your website is the most important step in the entire process. Without adequate planning, you'll end up with nothing more than a glorified electronic business card. Planning involves identifying your key objectives or goals for the website, understanding who your audience will be, determining how much you want to spend on your site, what domain name you want (e.g. mymassagebusiness.com.au), how often you will update it, and what functions you would like the site to have. To keep the planning process simple, grab a pen, a piece of paper, and start writing down the main goals of your website. At minimum, you should make your goals specific and achievable. An example would be to increase the number of direct enquiries to your practice, clinic or business. Whatever your goals may be, writing them down will increase the chance of a successful website instantly!

## Gather content

After you've identified the goals of your website, you are ready to start planning and gathering the content to put on it. By content, I mean the website text, the images to be used and any documents or files you want to make available for download. There are literally thousands of websites on the internet, every one of

them different, so what should you have on your website? The simple answer is whatever your users want. In the soft tissue therapy/remedial massage industry, there are a few key things that work really well in allowing your business to cater for the visitors to your site. A staff page is great for allowing your potential clients/patients to find out a bit about you and your staff before ever getting a foot in the door. When they do come in for their first visit, they feel like they already know some of the staff members they can see, they know the qualifications held, what experience you have and any staff highlights such as working for a representative sporting team or any specialist skills. Some other great content used on allied health sites are appointment forms, treatment examples, and articles written or referenced. Of course, you should also have your contact details displayed prominently (phone, address, email at minimum) as well as your business name, any health fund rebates that are available, and methods of payment available.

## Essential information

There are five things I think are essential for a manual therapy website.

1. Staff page: a staff page with profiles and pictures will definitely help promote a comfortable feeling for your business;
2. Full contact details: phone number, address, and email address are all essential. A contact form in addition to just displaying your email address is also a great option;
3. Legal information is always good, so info like your ABN and accepted health funds;
4. Appointment page: Give people as many

options as possible for making an appointment – a simple form that captures all the necessary details and automatically sends you an email is well worth it;

5. Uniformity: make sure all the pages have the same common elements such as the logo, layout graphics and colours.

## Kicking off

So now you've planned the site, you've gathered all the content that will be used, and wondering what's next? It's time to get the site started! You will need to find a website designer or website developer to design a website that will be pleasing to the demographic you are targeting. The website should be visually appealing to your audience, not just to your designer, and it should be standards compliant, which means it will look the same in all web browsers, no matter who is viewing it. After the site has been designed, it then has to be programmed so it works – leave this up to the website developer! You should consider getting your website built around an update wizard or content



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management system that allows you to maintain it as you need to. A good website wizard will allow you to add new images, edit the text on your site, and generally keep it up to date. People love new content on websites, which is what keeps them coming back time after time (just think of the sites you like, they

always have new content). Remember to plan for updates to your website so it will have every chance of success.

#### Launch time

Your site has to be hosted on an internet specific computer (known as a server) that is used purely for hosting a website. You generally don't need to worry about this as your designer/developer will be able to recommend a host and even set it up for you (including your email addresses, such as bookings@mymassagebusiness.com.au).

After your site has been launched, you can't just sit back and relax. You should add content regularly, keep the information up to date, and add material such as new profiles for staff that you employ. Your website is like a business card that is available 24 hours a day, 7 days a week. Long after you have gone home for the day, your website continues to work for you. When somebody goes to

the web to find a local massage clinic, or get some information on low back pain, your site will be available and ready to provide the information they need.

To recap the process of getting your business online, just follow these key steps:

- Plan, plan, plan!
- Buy a domain name (your website address)
- Get a designer to turn your ideas into a professional website
- Organise web hosting (your designer will generally have recommendations for this)
- Launch your website, and keep it up to date regularly.

Now you have the information needed to build a solid website aimed at your demographic. If you plan for success, your site will be an asset to your business.

*Joel Roberts is a web developer with Tekhaus Web Solutions.*

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