

British Journal of
S P O R T S
 M E D I C I N E

Editorials

Warm up

Just back from the American College of Sports Medicine (ACSM) meeting in Baltimore. The meeting once again lived up to its pre-conference hype. To attend such a conference is an eye opener. Every young sports medicine practitioner should make the effort at least once. I am sure the Americans must have some supercomputer tucked away to deal with a meeting matrix of such complexity that requires 25 concurrent sessions running at any one time. The highlight was probably the presidential keynote address on the history of medicine in space. Using more computer technology than the Apollo 11 moon landing, this talk dazzled the audience with three simultaneous data projectors, movie animation, voice overs, and sound bites from the music of the era. I pity the person designated to give the keynote at the next meeting in St Louis. How could you possibly top that performance?

One pleasing aspect is the ever increasing non-American contingent that attends this meeting. Compared with my first ACSM conference more than 10 years ago, the change is spectacular. I can well remember in Dallas (ACSM 1992) only two sports medicine clinicians from Australia preaching to the masses of sceptical Americans. I seriously believe that they thought we were actually from Austria and were surprised that we spoke English! Now the non-American attendees number in the thousands. It is increasingly obvious that as more of the sports medicine organisations from around the world sponsor lectures and symposiums at this meeting, so the Americans are introduced to ideas and concepts that challenge their insular view of the world. This can only be to the advantage of all. It was impressive to see that the British Association of Sport and Exercise Medicine lecture this year was

extremely well attended, and well received. Other presentations by Commonwealth, European, and Asian countries similarly served to highlight the gap that exists, particularly in clinical sports medicine, between the Americans and the rest of the world.

Apart from the programme, much of the fun of a conference such as this are the meetings and networking, which are an inevitable accompaniment of the sports medicine world. Attending four editorial board meetings, organising many other individual business and journal meetings, and catching up with friends and colleagues from all over the world can be exhausting. Once again the Friday night Commonwealth Dinner was restored to its pre-eminent position in the social programme eclipsing the formal conference dinner. If only Tom Crisp wouldn't start singing at these events!

For the first time in many meetings we actually had no professional sport being played in the conference city, with both the Orioles and the Ravens being on the road. Another attraction of the ACSM meeting is that it always falls at the time of the NBA basketball playoffs, as well as the regular baseball, and American football seasons. For a sports-mad medical audience what more could you ask? Go to a conference and see some elite sport as well. Last year in Indianapolis we had the Indiana Pacers and the NY Knicks in the NBA playoffs around the corner from the conference. The year before in Seattle we had the Mariners playing the Orioles in baseball. What a dream!

Forget Disneyworld. Forget Universal studios and Hollywood. If you get the chance, go to an ACSM meeting. Present a paper or a poster if you can. See the sights and enjoy the sport. Just do it!

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The “piriformis syndrome”—myth or reality?

The “piriformis syndrome” has been described as a form of sciatic nerve entrapment causing buttock and hamstring pain. In sports medicine practice, where chronic hamstring pain is a common diagnostic problem, this syndrome is often put forward as a possible cause of these symptoms.

The original description of this condition dates from 1928 when Yeoman stated that “insufficient attention” has been paid to the piriformis muscle as a potential cause of sciatica.¹ Subsequently, clinical and anatomical studies were reported, developing the nature of this condition further. In 1934, Freiberg and Vinkle reported surgical division of the piriformis muscle as a cure for sciatica.² Interestingly, although the original descriptions of this putative syndrome related to the distal sciatic symptoms, in

recent times the term has been utilised non-specifically to include buttock and hamstring pain alone, without focal neurological signs.³

There was a brief vogue invoking anatomical variants of the course of the sciatic nerve over, through, or under the piriformis muscle as it exits the sciatic notch, as a source of neural compression. Such anatomical findings have previously been noted in cadaveric dissections.⁴ Although intuitively attractive, such concepts have not been sustained using imaging, electrodiagnostic testing, or direct visualisation during surgical operation.

In the sports medicine literature, piriformis syndrome is usually described as a cramping or aching pain in the buttock and/or hamstring. It may be described as a sensation

where the hamstring muscles feel “tight” or are “about to tear”. Physical examination demonstrates that the buttock pain is exacerbated by hip flexion combined with active hip external rotation or passive internal rotation. Local muscle spasm is usually palpable in the obturator internus, or less commonly, in the piriformis muscle. Formal neurological examination is usually normal. Biomechanical assessment of the hip and lower leg usually demonstrates restricted hip external rotation and lumbosacral muscle tightness.³

There have been few reports of appropriate investigational approaches to this problem. Imaging modalities have generally been disappointing. Electrodiagnostic tests may provide the most simple and practical means of diagnosis. Long latency delayed potentials—for example, F and H waves, are normal at rest but may become delayed in manoeuvres where the hip external rotators are tightened—for example, by passive internal rotation and hip flexion.⁵ Similarly short latency somatosensory evoked potentials have been reported to be of use in diagnosis.⁶ Electromyogram is usually normal, unless severe long-standing compression has led to denervation changes in the muscles.

Once a diagnosis has been made, the treatment usually depends upon the suspected pathology. If muscular spasm and tightness is the suspected aetiology then an aggressive stretching and massage programme should be instituted. If this is initially unsuccessful, a local anaesthetic block to the muscle should be considered. If conservative methods fail then surgical neurolysis should be contemplated.

Before considering surgery for this condition it is important to accurately localise, as far as possible, the site of

entrapment. In most cases, this will be at the level of piriformis, although the “hamstring syndrome” may mimic the symptoms. It is impossible to decompress both regions easily through a single incision, particularly in a muscular athlete.

Given the anatomical relationship of the piriformis to the various nerves in the deep gluteal region, it is possible that the buttock pain represents entrapment of the gluteal nerves, and the hamstring pain entrapment of the posterior cutaneous nerve of the thigh rather than the sciatic nerve alone. This would explain the clinically observed phenomenon in the absence of distal sciatic neurological signs. Whether the piriformis muscle is the cause of the compression has not been clearly established. It is possible that the obturator internus/gemelli complex is an alternative cause of neural compression. For this reason, I suggest that sports medicine clinicians consider using the term “deep gluteal syndrome” rather than piriformis syndrome.

PAUL MCCRORY

Editor

- 1 Yeoman W. The relationship of arthritis of the sacro-iliac joint to sciatica. *Lancet* 1928;ii:1119–22.
- 2 Freiburg A, Vinkle T. Sciatica and the sacro-iliac joint. *J Bone Joint Surg* 1934;16:126–36.
- 3 Brukner P, Khan KM. *Clinical sports medicine*. 2nd ed. Sydney: McGraw-Hill, 2000:214–20.
- 4 Sunderland S. *Nerves and nerve injuries*. 2nd ed. Edinburgh: Churchill Livingstone, 1978:164.
- 5 Fishman L, Zybert P. Electrophysiologic evidence of piriformis syndrome. *Arch Phys Med Rehabil* 1992;73:359–64.
- 6 Synek V. Short latency somatosensory evoked potentials in patients with painful dysaesthesias in peripheral nerve lesions. *Pain* 1987;29:49–58.



Getting the *British Journal of Sports Medicine* to developing countries

For some years now it has been our policy to give gratis subscriptions to our journals to applicants from countries in the developing world. However, in practice this has had its difficulties. Many developing countries have either poor or non-existent postal services, and granting a print subscription can often be problematic and expensive—the marginal cost of sending the *British Journal of Sports Medicine* to Africa is around £25 each year.

An editorial in *BMJ* sets out the arguments very clearly.¹ We know that the gap between the rich and poor countries is widening. Whereas those of us in the developed world have information overload, the developing countries have bare library shelves. The internet gives us the opportunity to narrow the gap.

The marginal cost of giving access to the electronic edition of the *British Journal of Sports Medicine* is close to zero. What is more, those in resource poor countries can access electronic journals at exactly the same time as those in the developed world. Even better, they can access what is relevant rather than what is provided, much of which is not relevant. Best of all, they can participate in the debate using the rapid response facility on the web site in a way that was almost impossible with the slowness of print distribution.

Access to the electronic edition of the *British Journal of Sports Medicine* will be provided free automatically to those from countries defined as poor under the human development index by the United Nations

(<http://www.undp.org/hdro/HDI.html/>). The BMA and several of our co-owning societies have made funds available for the installation of Digital Island on all our journal web sites. This clever piece of software recognises where the user is coming from and will give unrestricted access to the whole web site to users from those developing countries we choose to designate. *BMJ.com* will continue to be free to those in the developing world whatever happens in the developed world.

The income that we get from resource poor countries is minimal; and facilitating information supply should encourage development, improvement in health care, and eventually create a market.

The problem with this vision is the lack of access to the world wide web in the developing world. Whereas tens of millions of people have access in the United States, it is only thousands in most African countries; and access in Africa is often painfully slow, intermittent, and hugely expensive relative to access in the United States (where it is often free). Power cuts happen every day in many resource poor countries. Yet there is every reason to expect that access should increase dramatically. India currently has a million people with internet access, but this is expected to rise to 40 million within five years. Similarly dramatic increases are expected in Nigeria. Technological developments such as access to radio and the proliferation of satellites will render irrelevant the many problems of telephone access in Africa. Rapid progress will also be made