Children's Sports Injuries

Nineteen sports injured children were treated at an Osteopathic Clinic in Tauranga, and an analysis was made of the type of sports involved, the nature and site of injury, and the effectiveness of the Osteopathic treatment offered. Although the study group was small, the results appear to indicate that Osteopaths are playing an effective role in the primary treatment of sports injured children in New Zealand.

Method of Investigation

The study covered a 12 week period from March to June 1985, and of a total of 71 children (under the age of 17) attending for treatment, 19 children aged 6-16 (27%) were able to relate their complaint to a specific sporting incident or event that shortly or immediately preceded the onset of their pain or disability.

The patient's history was taken, including when they had first noticed the onset of their pain. Nineteen of the 71 children seen said that their symptoms had developed either during or soon after (within 24 hours) a particular sporting event. Fifteen of the conditions were directly related to a trauma of some kind (an all or body contact injury), while the other four were more related to an overuse syndrome of particular muscle groups.

The most common presenting symptoms were back pain and neck pain, with 16 of the 19 children complaining of pain in one of these two areas. However, a wide range of sporting activities were involved (12 in all), the most common being rugby (due to the season of the study), cycling and gymnastics. (See Tables 1 and 2).

Table 1 – Symptom Area	
Back pain	9 patients
Neck pain	7 patients
Headaches	3 patients
Knee pain	2 patients
Shoulder pain	1 patient
Wrist pain	1 patient
Ankle pain	1 patient

Table 2 – Sports and Types of Injuries	
Rugby contact injury	4 patients
Cycling fall	3 patients
Gym fall	3 patients
Trampoline fall	1 patient
Karate contact injury	1 patient
Volleyball contact injury	1 patient
Swimming muscle strain	1 patient
Horse riding fall	1 patient
Tap dancing muscle strain	1 patient
Ballet muscle strain	1 patient
Playground fall	1 patient
Camping muscle strain	1 patient

Treatment

Osteopathy is a form of manual medicine that emphasises the use of manipulation and muscle release techniques in the treatment of disorders of the Musculo-Skeletal system.

The muscle release techniques that are used involve a wide range of techniques applied to the myofascial component of the patient's injury; these may include the release of acute myofascial "trigger points" (localised areas of hypersensitivity to palpation within the myofascial complex), through direct stationary pressure on the trigger point until a release is felt to occur by both examiner and patient.

Alternatively, a more generalised relaxation of tense tender muscles may be called for via simple massage techniques, or else a technique known as "fascial release" may be used, where fascial adhesions, formed as a result of the trauma to the enclosed tissues, are released by the use of extremely gentle localised compression traction of the injured area.

A number of different manipulative techniques are then applied to the joint structures in the injured area, as well as to the other structures outside the local area that may have been affected by the trauma. These may include the application of a short thrust to the joint to free, for example, a facet joint lock in the spine, while other techniques employ repetitive articulatory movements in order to

encourage full mobility in joints with restricted motion. In either case, the techniques used are localised and refined, the patient feeling only some minor discomfort when the more painful joints are manipulated.

This combination of muscle release and manipulative techniques offers a most effective method or relieving Musculo-skeletal pain. The muscle release techniques relax the muscle spasm and tissue oedema that accompany traumatic injury (while helping, incidentally, to relax the patient), while manipulation helps to create a more lasting relaxation of the traumatised tissues, by mobilising joint structures that are restricting movement and contributing to the pain – spasm – pain cycle.

Results

All the patients received a 20 to 30 minute treatment session, once weekly, where a variety of muscle release techniques were combined with gentle and appropriate manipulation to secure a deep and lasting release of the injured tissues. Cold compresses were applied on two occasions and stretching and/or warm-up exercises were prescribed where appropriate.

As the majority of injuries that presented involved pain in the spine and associated structures, much of the treatment approach outlined above was applied to these areas. However, many times treatment was also given to other spinal areas or peripheral structures that were not apparently painful, but which on examination, were found to be dysfunctional also, and of relevance in the total picture of that patient's injury.

It appears that this all round approach greatly speeds up the healing time and enables the patient to become pain free and return to their normal round of sporting activities much more quickly, as it is the totality of the patient's injury that is important, and not just the localised area of pain.

Thus, in one of the cases of rugby injuries, for example, the left knee was the major area of trauma and pain, but in the course of the trauma, the low back and neck were also twisted and the left sacro-iliac joint strained. These areas were apparently pain free until examination revealed a restricted movement in several joints and a marked tenderness in the surrounding myofascial tissues. When treatment was performed on these peripheral areas of injury, they mobilised well and, more importantly, their release immediately lessened the tissue tension around the primary site of injury in the left knee, which, added to the local treatment, contributed greatly to a speedy recovery.

All of the children treated during the study made full recoveries, only one requiring more than three treatments and nine requiring only one visit. The average number of treatments per patient was two, but six of the seven patients who returned for a 2nd (follow up) treatment only did so to report improvement and to confirm that they were well. (See Table 3).

Table 3 – Treatment Results	
Number of Treatments Required for a Full Recovery	
Required One Treatment	9 Patients
Required Two Treatments	7 Patients
Required Three Treatments	2 Patients
Required Eight Treatments	1 Patient

Patients who returned for follow up visits to report that they were well were recorded as such. All other patients were followed up by telephone, within the period of study, when either they or their parents were able to confirm their recoveries soon after their last treatment.

Conclusion

It was interesting to note that all but one set of parents of the children involved in this study had previously received treatment at the Osteopathic Clinic themselves, and thus were in a position to know what Osteopathic treatment methods had to offer for their children's injury.

The results recorded and the fact that several patients reported an immediate sense of relief from pain and tension as the treatment procedures were carried out, seems to lend support to the complementary role the Osteopath is playing the primary care of sports injured children.