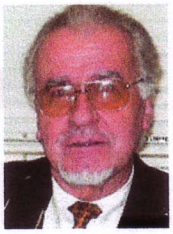

Whiplash

Whiplash is the term used to describe when the soft tissue of the spine is stretched and strained after the body has been suddenly jolted backwards and forwards in a whip-like movement. The injury most commonly occurs in car crashes that involve a vehicle coming to a sudden stop, while the bodies of the driver and any passengers continue to move forward, according to the law of momentum. It can also be the result of strenuous physical activities such as diving.

As for treatment, for most victims of whiplash, conservative osteopathic manipulation combined with gentle neck traction is beneficial (Hoag M, ed. *Osteopathic Medicine*. St Louis, MO: McGraw-Hill Book Company, 1969: 391–3).

However, in some cases, either or both of the front and back groups of spinal ligaments may be torn. In these patients, the neck should be supported by wearing a soft collar for six weeks or more.

To diagnose whether there are ligamentous tears in the neck, the osteopath or chiropractor will take a series of functional X-rays—these are lateral views, from both sides, with the neck fully extended and fully flexed.

Tears of the front ligaments are of particular concern because the front ligaments provide the only support for the vertebral bodies, the bony building blocks of the spine. When these ligaments are torn, it can lead to constant instability and severe disc problems later in life (Stoddard A. *Manual of Osteopathic Practice*. London: Hutchinson & Co, 1974: 122–3).

Another complication of whiplash injury—and often in the absence of any actual impact to the head—is impaired blood flow within the brain. Some osteopaths maintain that disturbances in the cerebral circulation following even relatively minor whiplash injury may be responsible for, or at least contributory to, an increase in so-called post-traumatic symptoms.

Indeed, this idea is supported by the findings of a study that found a reduced cerebral blood flow among patients with post-traumatic symptoms when tested four to eight weeks after having had injuries to the head or neck; no such diminished circulation was seen in patients who had had similarly caused injuries, but not involving the head or neck. When the former patients were tested during their recovery, a reduction in symptoms tended to coincide with normalization of their brain circulation (Lancet, 1966; *ii*: 178–80). Nevertheless, other vascular causes may also be involved as well (Clin Electro-Encephalogr, 1984; 15: 214–21).

Post-concussion syndrome

Whiplash sufferers may develop what is known as 'post-concussion syndrome', which is commonly seen in victims of a car crash, or any industrial or sporting accident involving neck and 'closed-head' (the skull remains intact) injuries. It has been described as a psychophysiological response to the fear of annihilation (Freedman AM *et al. Modern Synopsis of Comprehensive Textbook of Psychiatry, vol II, 2nd edn*. Baltimore, MD: Williams & Wilkins, 1977: 856–7; Richardson JTE. *Clinical and Neuropsychological Aspects of Closed Head Injury*. London: Taylor & Francis, 1990: 205).

The symptoms can include fearfulness, tetchiness, repetitive dreams or nightmares, palpitations, headaches, dizziness, insomnia, anxiety and fatigue, and these can pass quickly or may last for months and even years. It is thought that, after three to six months, the syndrome can lead to neuroses that may be described as 'depressive reactions'—anxiety states often with phobic symptoms and all manner of complaints, such as headaches and dizziness, that become the subjects of "anxious introspection and hypochondriacal concern" (Psychol Med, 1973, 3: 314).

Modern medicine tends to treat these symptoms with tranquillizers and antipsychotics (Minerva Chirurg, 1990; 45: 1309–14). Osteopathy takes a different view.

It identifies other effects of the syndrome, including loss of short-term memory, loss of mental acuity, loss of will or motivation and changes in sleep patterns, as well as physical symptoms such as tremors, double vision, loss of smell, stammering, sensitivity to noise and bright light, and pain and dysfunction of the temporomandibular joint (TMJ) (J Am Osteop Assoc, 1963; 62: 739–50; J Am Osteop Assoc, 1975; 74: 400–10).

An osteopath will then use various tests to determine whether the whiplash caused neurovascular or nerve-root compression. Either magnetic resonance imaging (MRI) or computed tomography (CT) is usually recommended to guide the treatment.

In one study, the Minnesota Multiphasic Personality Inventory (MMPI) test was given to 73 patients with traumatic, closed-head brain injury to evaluate their emotional state. Analysis of the results showed that many were experiencing emotional disturbances and, surprisingly, those with minor injuries showed higher distress levels than those with severe injuries (Brain Injury, 1991; 5: 199–205).

It has been proposed that victims of brain concussion should be followed-up after discharge to minimize their loss of feelings of social wellbeing (Scand J Rehabil Med, 1991; 23: 179–85).

Other studies have shown benefit with osteopathy. The craniosacral method has long been used in such cases with marked success (Osteop Med, 1978; 3: 43–52; Magoun HI, *Osteopathy in the Cranial Field, 2nd edn*. Kirksville, MO: Journal Printing Co, 1966). This subtle manipulation technique involves light touches to the head and sacrum (where the spine meets the hip bone) to remove restrictions to the movement of bone and the flow of cerebrospinal fluid.

Manipulation in the neck region plays a significant part in reestablishing adequate arterial blood flow to the head and neck (Osteop Ann, 1975; 3: 42–3).

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