

Apple Cart

a core concepts musculoskeletal group newsletter



Whiplash-Associated Disorders : A Review of Non-Pharmacological Treatment Protocols

The number of road accidents in Singapore has grown steadily in the last few years. In 2008, a total of 14,995 road accidents and 10,000 related injuries were recorded. With figures like these, we can expect an increase in whiplash injuries whereby the family doctor will be the first to be called on. This article will discuss common treatment options for a whiplash injury and the research into the efficacy of these treatments.

Whiplash injuries are graded from 0 to 4 as defined by the Québec Task Force (see table). Patients suffering symptoms within grades 1-3 would be most likely to seek advice from a GP.

Common complaints include a stiff and painful neck, headache, dysphagia, and sometimes pain in the shoulders or arms. In recent years, much research has been conducted to determine which treatments provide positive results for patients within this group. Although only a few treatments have had consistent results, it still provides a guideline for achieving the best outcomes for whiplash patients.

Recommended Treatments

Act as Usual

“Act as usual” is a strategy to encourage patients to continue their normal activities within pain limits. This is especially important in the early stages of whip-

lash to avoid the development of fear-avoidance behaviours.

There is strong evidence to suggest that acting as usual leads to positive outcomes. Two randomised controlled trials have compared acting as usual to other forms of treatments such as collars and active interventions. Six months after whiplash, people who acted as usual were much better compared to people who wore collars and had time off work. This was particularly noticeable for pain, headaches, stiffness, concentration and memory.

Exercise

There is evidence to indicate the performing ROM and muscle re-education exercises to restore appropriate muscle control and support to the neck is beneficial following a whiplash injury. This was especially effective when a personalized program was prescribed rather than advice alone. It is still unclear however, which specific exercises are most beneficial to whiplash injuries.

Mobilisation

Mobilisation is defined as low-grade/velocity, small or large amplitude passive movement techniques or ‘neuro-muscular’ technique within the patient’s range of neck motion and control. There have been very few research studies where mobilization techniques were used alone to treat whiplash disorders. Studies where mobilization has been

used with other treatments have indicated no difference in long-term benefits when compared with no treatment. However, there is strong evidence to support the use of mobilization during the acute stage (0-2 weeks after injury).

Manipulation

Manipulation refers to applying a localised force of high velocity and low amplitude thrust directed at a spinal joint. Research indicates that using manipulation alone does not benefit patients following whiplash injuries. However, when combined with other treatments, patients with manipulation seemed to have better outcomes than those without manipulation. It is therefore recom-

Quebec Task Force Classification of Whiplash Associated Disorder (WAD)⁴

| Grade | Classification |
|-------|---|
| 0 | No complaint about the neck. No physical sign(s). |
| 1 | Complaint of neck pain, stiffness or tenderness only. No physical sign(s). |
| 2 | Neck complaint AND musculoskeletal sign(s). Musculoskeletal signs include decreased range of movement and point tenderness. |
| 3 | Neck complaint AND neurological sign(s). Neurological signs include decreased or absent tendon reflexes, weakness and sensory deficits. |
| 4 | Neck complaint AND fracture or dislocation. |

mended that manipulation treatment be applied in conjunction with other treatments when treating whiplash injuries.

Not Recommended Treatments

Cervical Collar

The use of cervical collars has been found to be ineffective in reducing pain, stiffness and disability associated with whiplash injuries. It compares inferiorly to other treatments for whiplash injuries such as acting as usual or performing exercise programs. It is not recommended that a collar be prescribed for patients suffering from a whiplash injury.

Rest

There are no studies to that specifically use rest as a treatment option. However, rest has been used in studies as a control (ie. no treatment) and has shown poor outcomes. Therefore, bed rest is not recommended for whiplash injuries. If rest is prescribed, it should be limited to patients with grades 2 and 3 injuries only, and limited to very few days.

Traction

There is inconclusive evidence to indicate whether traction is an effective treatment for whiplash patients. Studies which found no evidence to support the use of traction were not limited to whiplash patients only. However, a recent systematic review did find traction to be effective in reducing pain and improving function in whiplash patients with a nerve root compression. It is suggested that traction be used as an additional treatment option should radiculopathy be present and treatment options are minimal.

Acupuncture

Currently there is little evidence available in relation to acupuncture. There have only been 3 small studies that have looked at the benefits of acupuncture following a whiplash injury. Although they have shown some positive results from the studies, further research into

acupuncture for whiplash injuries need to be conducted before a conclusion can be made.

Conclusion

In conclusion, the current evidence supports treatments which help to maintain movements in the neck following a whiplash injury especially "act as usual" and exercise. Joint manipulation and mobilization are not recommended on their own, however can be beneficial when used in conjunction with other treatments. Passive treatments such as rest, wearing a cervical collar, and acupuncture are currently not recommended; while traction has been found to be appropriate only for patients who have cervical radicular pain.

Based on the findings, it is important that whiplash patients are encouraged to remain active by performing usual tasks of a daily living, even in the acute stage of injury. They should be advised to perform neck exercises which are within their pain limits. It is therefore suitable for patients to be referred to a physiotherapist in the acute phase.

Physiotherapy treatment can include joint mobilization techniques and soft tissue management, as well as provide a custom exercise program for patients. The combination of these treatments will promote a speedy recovery to return to full function and avoid chronic disability.

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| ROAD CASUALTIES ON THE RISE | | | | | | | |
|--|-------|-------|-------|-------|-------|--------|--------|
| | | | | | | | Number |
| | 1998 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Total Casualties | | | | | | | |
| Killed | 221 | 212 | 193 | 173 | 190 | 214 | 221 |
| Injured | 7,448 | 8,023 | 8,439 | 8,224 | 9,706 | 10,352 | 10,760 |
| Pedestrians | | | | | | | |
| Killed | 67 | 64 | 46 | 41 | 42 | 58 | 62 |
| Injured | 804 | 792 | 824 | 662 | 924 | 1,036 | 1,114 |
| Pedal Cyclists Trishaw Riders & Passengers | | | | | | | |
| Killed | 15 | 17 | 17 | 18 | 14 | 22 | 22 |
| Injured | 252 | 356 | 379 | 358 | 493 | 519 | 585 |
| Motor Cyclists & Pillion Riders | | | | | | | |
| Killed | 87 | 94 | 95 | 95 | 102 | 102 | 108 |
| Injured | 3,641 | 4,272 | 4,599 | 4,526 | 4,943 | 5,358 | 5,218 |
| Motor Vehicle Drivers & Passengers | | | | | | | |
| Cars & Station Wagons | | | | | | | |
| Killed | 30 | 27 | 23 | 8 | 18 | 21 | 23 |
| Injured | 1,751 | 1,860 | 1,796 | 1,770 | 2,306 | 2,320 | 2,562 |
| Bus/Goods Vehicle/Van | | | | | | | |
| Killed | 21 | 10 | 10 | 9 | 13 | 11 | 6 |
| Injured | 959 | 687 | 771 | 755 | 917 | 1,026 | 1,158 |

Source: Yearbook of Statistics Singapore, 2009

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