

Hela artikeln är publicerad i PubMed.

Pain Res Manag. 2009 Nov-Dec; 14(6):427-32.

Abstract text.

Dynamic kine magnetic resonance imaging in whiplash patients and in age- and sex-matched controls.

Lindgren KA, Kettunen JA, Paatelma M, Mikkonen RH.

ORTON Orthopaedic Hospital, Rehab Unit, Finland. karl-august.lindgren@orton.fi

The multitude of symptoms following a whiplash injury has given rise to much discussion because of the lack of objective radiological findings. The ligaments that stabilize the upper cervical spine can be injured. Dynamic kine magnetic resonance imaging (dMRI) may reveal the pathological motion patterns caused by injury to these ligaments. To compare the findings and motion patterns in the upper cervical spine, 25 whiplash trauma patients with longstanding pain, limb symptoms and loss of balance indicating a problem at the level of C0-C2, as well as matched healthy controls were imaged using dMRI. Imaging was performed with an Intera 1.5 T (Philips Healthcare, USA) magnet. A physiotherapist performed the bending and rotation of the upper cervical spine for the subjects to ensure that the movements were limited to the C0-C2 level. An oblique coronal T2- and proton density-weighted sequence and a balanced fast field echo axial sequence were used. The movements between C0-C2 and the signal from the alar ligaments were analyzed. Contact of the transverse ligament and the medulla in rotation was seen in two patients. The signal from the alar ligaments was abnormal in 92% of the patients and in 24% of the control subjects ($P<0.0001$). Abnormal movements at the level of C1-C2 were more common in patients than in controls (56% versus 20%, $P=0.028$). Whiplash patients with longstanding symptoms had both more abnormal signals from the alar ligaments and more abnormal movements on dMRI at the C0-C2 level than controls.