six of the 11 patients. This was slight in two and moderate in one. The changes were pronounced in the three patients (2, 7, and 8) who had the most extensive changes in other areas, and indeed can be seen in hindsight in fig 1A of our paper.

**Post lumbar puncture headache**

In their article on the relation of substance P concentration and history of headache after lumbar puncture, Clark et al. reflected on prevention.

In a controlled, prospective, and blinded study, we have examined frequency and risk factors for the post lumbar puncture syndrome. We found that autonomic dysregulation on clinical examination, the patients self-assessment, and their tendency to show dysregulation in their vegetative reactions to various stimuli such as fearful experiences, school stress etc, and their general anxiety towards lumbar puncture itself were the main predictors for the syndrome to occur. The main goal of our study was to prospectively examine the rate of occurrence of the post lumbar puncture syndrome after using an atraumatic puncture cannula referred to as the Sprotte-Pajunk or Wurzburg needle in Germany. The use of the new 22-gauge needle reduced the frequency of the syndrome from over 30% to less than 5%. These figures are even lower now in the poststudy period with over 8000 punctures to date. Similar experiences have been reported by other neurology departments in Germany.

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Since publication of the study described, Professor Toyka's department has received a donation from the manufacturer of the needle.

**Correspondence to:** Dr Toyka.


**Bent spine syndrome**

We read with great interest the report Bent spine syndrome by Serratrice et al. In eight elderly patients, the authors postulate that the bent spine syndrome is related to weakness of the lumbar paraspinal muscles. This is different from the well known, pronounced lordosis in patients with myopathies. Lordosis in myopathies is used to shift the centre of gravity posteriorly to prevent falling due to tonsorial weakness. In the back is supported by ligaments and the iliosacral joints. Furthermore, it is known that the earliest reported muscle weakness in muscular dystrophy is the glutaeus maximus, the paraspinal muscles are also weak and have evidence of degeneration and fatty infiltrates, which we have shown with MRI studies.

We are surprised that the cases reported by Serratrice et al, with lumbosacral weakness and atrophy, had bent spine rather than lordosis and wonder if there were other weak muscles in these patients causing the forward bending rather than gravity enhancing lordosis. We have, for example, noted the bent spine syndrome in patients with distal myopathy in whom the lordotic posture could not be tolerated, causing their fall to fall due to distal leg weakness.

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Serratrice replies:

We did not postulate that the bent spine syndrome is related to weakness of "lumbar" paraspinal muscle but to paraspinous muscle atrophy and weakness.

G SERRATRICE

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**ANNOUNCEMENT**

**The European Spine Society: The AcroMed Prize for Spinal Research 1997**

For presentation at the 8th Annual Meeting of the European Spine Society, Kos, Greece, 10–13 September 1997 and a prize of Dfl 10 000. Applicants are requested to submit an original study, not previously published or submitted elsewhere, including figures and references for later publication in the European Spine Journal. Three copies of the manuscript to: Mrs J Reichert-Schild, Seefeldstrasse 16, CH-8610 Uster, Switzerland. Fax: 00 41 1 994 14 03. Closing date: 15 July 1997.

**American Autonomic Society**

2-4 November 1997. The VIII International Symposium of the Automatic Nervous System will be held in Honolulu, Hawaii.

For further information please contact: Ana Zeller/Sue Paxton, Registrars, American Autonomic Society, Mayo Clinic, 811 Guggenheim Building, 200 First Street SW, Rochester, MN 55905, USA. Phone 507-284-3375, Fax 507-284-1814, E-Mail zeller.ana@mayo.edu.

**Bethesda Hospital second rehabilitation conference, "Innovations in Trauma Rehabilitation", will be held at the Hilton Hotel in Melbourne, Australia, 27-29 October 1997.**

The conference is designed for those interested in the management and treatment of persons who have sustained traumatic injuries. The focus of the conference will be on approaches and interventions relevant to the management of acquired brain injury and chronic pain. Service delivery issues, both current and future, in relation to these areas will also be addressed. The programme will benefit medical practitioners, health professionals, and insurers working in trauma rehabilitation and will consist of a combination of keynote addresses and concurrent paper sessions.

**The aims of the conference are:**

- To provide participants with practical strategies and innovative approaches to the management of individuals following traumatic injury
- To explore issues surrounding the efficacy of treatments and outcomes
- To highlight current international trends as the management of rehabilitation services moves into the 21st century.

For further information, please contact: Margaret C. McLachlan, Bethesda Hospital, (03) 9420 5333.
Postlumbar puncture headache.

K V Toyka

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