**Application of miniature pressure transducers to the investigation of intradiscal pressure in the cervical spine**

CELINA PEZOWICZ, BARBARA KACZMAREK, ROMUALD BĘDZIŃSKI
Division of Biomedical Engineering and Experimental Mechanics, Wroclaw University of Technology, Poland

*Acta Bioeng Biomech, 2004; 6(2):23-32*

**Abstract:** The method developed and used by the authors to measure intradiscal pressure is presented. We constructed 'needle' indicators fitted with miniature pressure transducers. Our analysis assessed the impact of stabilization on pressure in intervertebral discs adjacent to the stabilization area under compression and bending loads. The research was carried out on the post-mortem specimens of the cervical spine. The results showed that during axial compression there is a small increase in pressure following the introduction of bone graft when compared to the intact spine. On the other hand, bending has a major influence on the resultant pressure, depending on spinal level and the type of bending (flexion/extension). We have also concluded that, regardless of the type of load, in the discs above (the planned and then implemented) stabilization area, the pressure is lower than in discs located below.

**Key words:** intradiscal pressure, cervical spine, stabilization