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Comment to "Sagittal morphology and equilibrium of pelvis and spine" by G. Vaz et al.

Published online: 29 June 2001
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This comment refers to the article which can be found at
<http://dx.doi.org/10.1007/s005860000224>

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Many spine surgeons face reasonable demands to restore the sagittal profile of the spine, either in deformity surgery or in lumbar spine fusion. Surgeons willing to fulfill this request are confronted with a high variability in the sagittal profile of healthy individuals and also a decrease in lumbar lordosis and an increase in thoracic kyphosis with increasing age. This individual variability has several reasons, an important one being the wedge shape of the vertebral bodies. The authors of this article focus our attention on pelvic anatomy, and especially on the pelvic incidence angle. This parameter, which was probably first described by Duval-Beaupère, describes a relation between the center of the hip joint and the base of the sacrum. In a study population of 100 healthy volunteers, the authors found a surprising variance of this angle, which ranged from 33° to 85°; they also found a reasonable correlation between this angle and lumbar

lordosis. This led the authors to focus on another significant factor, namely the pelvis, which is perhaps a more important influence on lumbar lordosis than is the shape of the vertebral bodies.

These data cannot immediately be applied in clinical practice; they can serve, however, to reformulate the hypotheses of new studies. Does the relation between lumbar lordosis and pelvic incidence angle differ significantly between young and elderly people? Is it meaningful to calculate a ratio between lumbar lordosis and pelvic incidence, and is this ratio perhaps helpful in clinical practice to identify subgroups of low back pain patients with a particular problem? Could it, perhaps, be possible to create an explanatory model that explains lumbar lordosis better and that is also based on thoracic parameters? A simple model may provide information that could be used by the surgeon in restoring lumbar lordosis.