We retrospectively studied patients who underwent posterior pedicle screw instrumentation for thoracolumbar fractures to explore the relationship between correction loss after the operation and clinical outcome. The study included 52 patients, with a minimum postoperative follow-up of 7 years (mean of 9.8 years). From the analysis of radiographical and clinical outcomes, we found that the relevant factors of patients' back function were: (i) preoperative anterior vertebral height (AVH; regression coefficient $B = [1]0.075, p = 0.045$); and (ii) the latest follow-up anterior vertebral height ($B = [1]0.100, p = 0.043$). This indicates that the patient's function could be worse if the anterior vertebral column is compressed more severely at the time of injury, and that the function could also be worse if the anterior vertebral height is decreased at the latest follow-up. However, the loss of AVH was not correlated with the Oswestry Disability Index (ODI) value, which means the loss of AVH following surgery has no influence on the patients' back function. Therefore, we recommend that the AVH should be restored as much as possible by posterior instrumentation during the treatment of thoracolumbar fractures. Reducing the loss of correction to maintain the postoperative AVH is also critical. In addition, although the influence of correction loss on the ODI value was not significant, we conclude that it does influence the functional outcome through changing the latest follow-up AVH.